

For Reference

NOT TO BE TAKEN FROM THIS ROOM

Ex LIBRIS
UNIVERSITATIS
ALBERTAENSIS



THE UNIVERSITY OF ALBERTA
A STORAGE AND RETRIEVAL SYSTEM FOR THE ABSTRACTS
OF THESES IN EDUCATION COMPLETED AT THE
UNIVERSITY OF ALBERTA

by



DONALD ROSS SMYTH

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

EDMONTON, ALBERTA

FALL, 1970

UNIVERSITY OF ALBERTA
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Storage and Retrieval System for the Abstracts of Theses in Education Completed at the University of Alberta", submitted by DONALD ROSS SMYTH in partial fulfilment of the requirements for the degree of Master of Education.

ABSTRACT

The purpose of this study was to develop a computerized information storage and retrieval system appropriate for the abstracts of theses and dissertations completed in the Faculty of Education at the University of Alberta (1929-1969). Fundamental to the operation of this system were a series of computer programs which permitted the storage of the bibliographic details of the abstracts as well as the complete abstract text. The retrieval of the text and/or the bibliographic details was regulated by a second set of computer programs.

The development of appropriate procedures for document preparation represented a significant part of this study. These procedures were aided by coding forms developed for the project and by a vocabulary-regulating thesaurus.

Preliminary results of experimental searches using 297 educational administration theses abstracts as base indicated that the system could retrieve stored information with a satisfactory degree of precision. The display of entire abstracts as the end product of these searches was considered to be a valuable feature of the system.

Deficiencies which were noted in the system stemmed mainly from the inappropriate assignment of descriptor terms during the indexing process. This remains an area which requires additional investigation and improvement.

TABLE OF CONTENTS

Chapter	Page
1. THE DEVELOPMENT OF A COMPUTER BASED INFORMATION RETRIEVAL SYSTEM	1
IMPORTANCE OF THE STUDY	1
THE PROBLEM	3
Sub-problems	4
Delimitations	4
Limitations	4
Definition and Explanation of Terms	5
CONCLUSION	6
2. REVIEW OF THE LITERATURE	7
DOCUMENT ACQUISITION	8
External Acquisition	8
The ERIC system	10
Chemical Abstract Services	11
Internal Acquisition	11
DOCUMENT ORGANIZATION	15
Classification	15
Indexing	20
DOCUMENT STORAGE	22
Sequential File	24
Random File	24
List File	24
DOCUMENT RETRIEVAL	25

SUMMARY	28
3. SYSTEM ORGANIZATION	29
DOCUMENT SELECTION	29
DOCUMENT PREPARATION	30
Thesaurus Selection and Refinement	30
Indexing of Bibliographic Content	31
Preparation of Abstract	33
STORAGE OF INFORMATION	33
Thesaurus Description	33
Bibliographic Information	34
Text of Abstract	35
DOCUMENT SEARCHING AND OUTPUT	36
Bibliographic Contents	36
Individual Abstracts Texts	38
SUMMARY	38
4. SYSTEM CAPABILITIES	41
RETRIEVAL PROGRAMS	41
AIRHPER Retrieval Programs	41
PRE-FILE	41
FILE	42
SEARCH	43
TALLY	43
LIBRARY	44
Abstract Retrieval Programs	44
ABFILE	44
ABPRINT	45
SUMMARY	46

5. SYSTEM PERFORMANCE	47
THE THESAURUS	48
INDEXING AND CODING	49
RETRIEVAL PROCEDURES	51
Bibliographic Citations	51
Abstracts Texts	52
EVALUATION OF THE INTEGRATED COMPONENTS	57
6. SUMMARY AND CONCLUSIONS	58
RECOMMENDATIONS FOR CHANGE	60
REFERENCES	62
APPENDIX A THE THESAURUS	66
APPENDIX B CODING FORMS	216
APPENDIX C DIRECTIONS FOR CARD PREPARATION	221
APPENDIX D PROGRAM LISTINGS AND JOB CONTROL CARDS	239

LIST OF TABLES

Table	Page
1. Test Results of Retrieval Capabilities of the System....	53

LIST OF FIGURES

Figure	Page
1. Flow and Reduction of Information Through a Generalized Document Retrieval System	9
2. Sample Page from "A Classification of Theses in Education Completed at the University of Alberta," (Third Edition, 1966)	14
3. McBee Keysort Card, with Prepared Abstract	16
4. Alphabetical Word List from Barhydt and Schmidt	19
5. Classified Array from Barhydt and Schmidt	19
6. Sample Search Output	37
7. Sample Printout of Abstract Search	39
8. Sample Page from the Alphabetic Display of the Barhydt and Schmidt Thesaurus	70
9. Sample Page from the Faceted Section of the Barhydt and Schmidt Thesaurus	74

Chapter 1

THE DEVELOPMENT OF A COMPUTER BASED INFORMATION RETRIEVAL SYSTEM

IMPORTANCE OF THE STUDY

Information storage and retrieval systems are not recent developments. Dictionaries, directories, and public libraries are all examples of such systems that have long provided assistance to those seeking information. However, the need to develop new systems and improve existing ones has received great impetus from the "knowledge explosion." This acceleration in the growth of information has resulted in the creation of many difficulties to the dissemination of knowledge, difficulties which Cheydleur (1965:107) and Abelson (1967:144) label "bottle-necks." These restrictive influences pose a threat to the efficient use of emerging information. Dolan (1967:1) believes that one of the major inefficiencies is the possibility of "re-inventing the wheel." Such re-inventions contribute little to the expansion of understanding but involve the investment of considerable resources which could be better devoted to new research.

Educational research findings have contributed significantly to the "knowledge explosion" and, as is the case in other disciplines, there is a constant danger that much of the information obtained from this research is destined to remain the sole property of the individual researcher. Dissemination of this information results from random diffusion rather than from a planned dissemination program.



Inadequate methods of transmitting information, accompanied by the expanding volume of materials to be examined, tend to confine the new information to the area in which it was developed. There is a need to select information of importance, organize it into usable but compressed form, and make it readily available for use by interested investigators. Rippon (1969:41) mentioned this difficulty when he said, "On the average a scientist or technologist in industry cannot usually find the time to read more than about 10 journals regularly and to look at more than one or two major abstracts publications." The great wealth of publications in the educational field indicates a similar difficulty for researchers concentrating on education.

The vital role which an information system can play is outlined by Dolan (1967:2):

We must have the conviction that information is one of our most vital resources. We must see this resource as the life-blood that nourishes every organization, and our information centers as the heart that pumps it through the veins and arteries of information networks to our organizations and to society at large.

Certain disciplines, particularly those in the field of the physical sciences, have made substantial gains toward the removal of some of the obstacles, through the development of computer assisted systems for information storage and retrieval. Notable among these pioneers are the services provided by the Chemistry Abstracting Services (1966) and the Scientific and Technical Information System operated by the National Aeronautics and Space Administration (Doyle: 1967:274). The advantages which these systems have to offer for research in their respective fields are encouraging and their approach, with certain modifications, can be adopted for use in the field of

education. The success of the system utilized by the Educational Research Information Center (ERIC), which is in part a computerized system, is an indication of the potential of this advanced technology.

Two preliminary attempts at information storage and retrieval systems have enabled interested faculty members and students from the University of Alberta to keep abreast of developments in the area of educational research at the local level. However, the capacity and utility of these two projects has now been surpassed and there is now a need to advance to a system which can provide both the flexibility and capacity which present demands and future needs dictate.

This study proposes a computerized version of the presently operating system, but with a much greater number of dimensions through which access to the information can be gained. The modified system will incorporate a retrieval program written in Fortran IV G for the IBM 360/67 computer with a thesaurus of education terms. There are two major advantages of the new system: (1) Present and future research findings as contained in graduate students' theses and dissertations will be made more readily accessible as a result of the increased number of access points to the theses. (2) The difficulties associated with the maintenance of information files will be greatly reduced.

THE PROBLEM

The specific problem proposed for this project was the development of a computer program based upon a vocabulary-controlled classification system appropriate for theses and dissertations

completed at the University of Alberta (1929-1969) in the Faculty of Education.

Subproblems

Three major considerations pertaining to the system design were identified for investigation:

1. What is the most efficient way to classify theses and dissertations so that the basic information remains accurate and consistent with the original document?

2. How are the data to be organized so as to ensure efficient retrieval with a minimum of searching procedures?

3. What amount of information must be retrieved and what is the most efficient manner of presentation?

Delimitations

1. This study included only those theses and dissertations completed in the Department of Educational Administration, Faculty of Education, at the University of Alberta during the period 1958-1969.

2. The classification of each thesis was based upon the text of the abstract of the thesis rather than the entire original document.

Limitations

1. The restrictions placed upon natural language through the use of a thesaurus represents a limitation, since arbitrary decisions at the meanings of words may prove to be too rigid and may require modifications in the future.

2. The difficulty in developing universally accepted replacements, or keywords, tended to keep the retrieval rate below 100 percent.

Definition and Explanation of Terms

Abstracting: The process of recording the components of a research article or document in condensed form so that the basic information remains consistent with the ideas presented in the source document.

Classification: The systematic arrangement of documents according to generalized categories.

Descriptor: One of the terms contained in the thesaurus which may be used to index a document.

Document: A thesis or dissertation abstract which contains the information to be classified and stored.

Document Number: The first five characters of the document reference code. The range of document numbers for this project is 01001 to 01297.

Document Reference Code: The code of fifteen alphanumeric characters which uniquely identify the document.

Hardware: The electronic devices which complete the computations and display information as called for by the various written programs.

Indexing: The act of preparing an organized list which specifies or indicates the information, contents, or topics in a document.

Logical Connectors: A code by which a descriptor is linked to a related descriptor and used during the searching procedures. The logical connectors used in this project are AND and NOT.

Natural Language: The words forming the universe of terms which can be used to represent a given concept.

Precision: The proportion of retrieved material which is actually relevant.

Recall Value: A function of the relevant documents actually retrieved as compared to the total number of documents which should have been retrieved.

Searching: The process of examining the stored information in an attempt to obtain information relating to a specific request.

Software: The programming aids, such as specific program packages, which are available for use with computers.

Term Number: The four digit code assigned to each indexable word recorded in the thesaurus.

Thesaurus: The collection of terms which are acceptable for indexing documents in the field of education.

CONCLUSION

Nehnevajsa (1969:165) used the term "data-rich civilization" to justify his insistence on the need for improved methods of handling information. He argued that the potential of this plentiful data would not be fully realized unless procedures existed for its maximum use. This project sought to assist in the dissemination of educational research findings and thereby improve the possibility that emerging knowledge might be re-invested to the benefit of many.

Chapter 2

REVIEW OF THE LITERATURE

The development of information handling systems has been accelerated by the awareness that limitations to the traditional methods of handling data pose a serious threat to the rate of technological advance. Libraries have become overburdened by what Bourne (1963:2) considers an exponential increase in the volume of potentially useful information, and the distribution mechanisms are beginning to encounter difficulties associated with the resulting congestion. The rapidly increasing costs associated with the generation and handling of information represent a third and forceful argument for improved information handling methods.

In response to the limitations presented by these problems, there has been a proliferation of computer-based information retrieval systems designed to alleviate the increasing deficiencies of present systems. Accompanying these innovations have been articles and publications outlining the particulars of, and the rationale behind, these various proposals. A major emphasis in these reports has been on the "hardware" and "software" employed, often to the exclusion of the equally essential manual phases which are also critical to the success of the entire project.

This chapter examines the literature pertaining to information handling and storage systems, with considerable emphasis being placed upon the preparatory phases. The basic phases examined were:

document acquisition, document organization, document storage, and document retrieval. Fairthorne (1961:85) reduced these four stages to two, which he termed "marking" and "parking." Mayer (1965) included eleven steps in his generalized retrieval system (see Figure 1), while a third approach, used by Torman (1965), identified seven essential stages of an information system.

Regardless of the number of steps actually identified by these writers, there are certain areas of similarity among them; these were the areas which were reviewed.

DOCUMENT ACQUISITION

The difficulty which accompanies the distribution of information to potential users presents comparable problems to those who prepare it for dissemination. This obstacle of obtaining the document from the source has been overcome in several ways. A number of solutions were examined in the following section.

External Acquisition

The information which requires dissemination is rarely generated in sufficient quantities within a single agency to warrant that agency's establishing a department specifically for that purpose. One solution which has been followed in certain instances has been the establishment of information centers. These centers, which Phillipson (1968:6) terms "data banks," acquire pertinent information and prepare it for storage and eventual dispersal. In this way a valuable service is provided which might otherwise be unavailable. The methods of operation for a number of information centers were

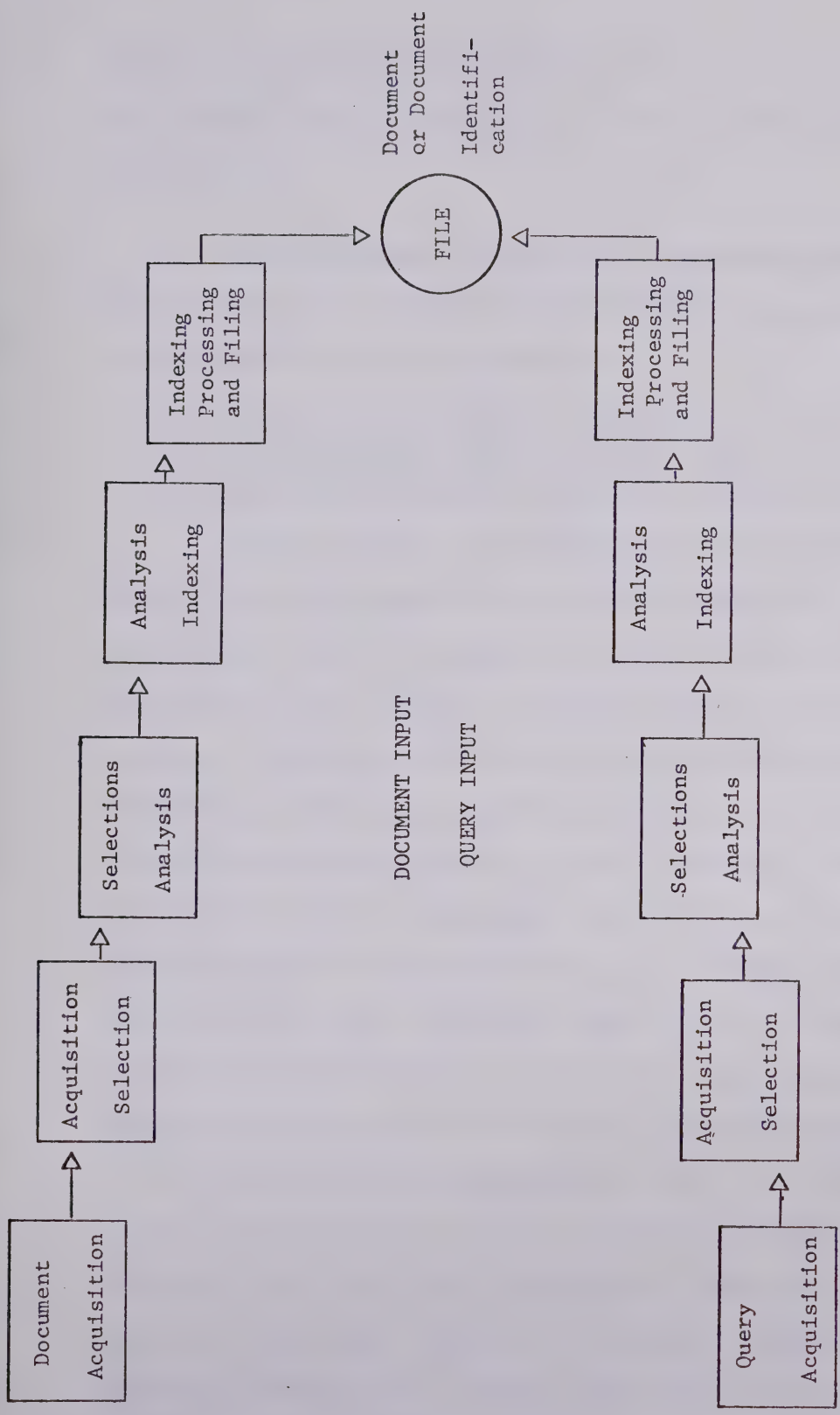


Figure 1

Flow and Reduction of Information Through a Generalized Document Retrieval System. (According to Mayer)

examined to determine the practicality of handling theses abstracts in a similar manner. The following section is devoted to observations of this center.

The ERIC System. The Educational Resources Information Center (ERIC) is a national information system which, according to Marron (1968:77) the system manager is:

Dedicated to the progress of education through the dissemination of educational research results, research-related materials and information about other resources utilized in developing more effective educational programs.

In many instances the information available through this agency is of recent origin and is therefore unavailable from any other source. ERIC, then, commands a unique position. As an agency supported by the U.S. Office of Education, ERIC has access to the results of ongoing research in the various departments of the U. S. government as well as the preliminary and final reports from research projects sponsored by the Health, Education, and Welfare Department of the U. S. Government. In reality the actual coverage provided by ERIC is more limited than its established objectives would indicate, since considerable research occurs outside the sphere of the Health, Education, and Welfare Department and this research does not automatically move into the ERIC system.

Participants in the ERIC scheme contract to receive various publications which provide bibliographic information relating to the entire field of education. Should they require additional information pertaining to a specific topic of interest, the Document Reproduction Service of ERIC will provide either hard copy or microfiche copy according to the user's wants. Thus,

the brief bibliographic information contained in the quarterly publication can be supplemented by additional data which the user feels may be pertinent to his area of investigation.

Burchinal (1969:7) summarized the functions which he felt were performed by ERIC as follows: Browsing, current awareness, and in-depth search. The position which ERIC occupies with respect to information resources has enabled these functions to be realized.

Chemical Abstract Service. Tate (1965:163-168) describes a form of information center which has become relatively autonomous and yet manages to accumulate information for distribution to subscribers. The Chemical Abstract Service (CAS) relies on volunteers from the various fields of chemistry to prepare items which have been selected for analysis. These preparations involve the writing of short abstracts with certain contextual words marked for special attention. These specific terms, keywords-in-context (KWIC), are used in the storage and retrieval of the various articles.

The biweekly publication, Chemical Abstracts, covers 95 to 97 per cent of the published literature in chemistry, and uses some 10,000 journal titles as its basis. This coverage is particularly significant in view of the reliance upon volunteers for the preparation of documents, and indicates that such an approach shows promise for other disciplines.

Internal Acquisition

Certain United States government departments, with a plentiful supply of internally generated data, include an information storage and retrieval section as an integral part of their

organizational structure. Carter (1967:13-19) lists 143 scientific and technical information facilities which function under the guidance of the United States Department of Defense. The documents produced by these various facilities are transmitted to the Defense Documentation Center, where indexing and classification procedures prepare the data for storage and later use. Abstracts of the original documents are published in the Technical Abstract Bulletin, which is distributed to qualified organizations. Tate (1965:163) terms this institutionalized procedure a "captive service."

A survey conducted by Barnard and Abbot (1963:10) used the information handling systems of the General Electric Flight Propulsion Center and the Du Pont Corporation as examples of private industry employing the captive service approach. Although the specificity of the subject fields restricts the number of users, these systems have permitted the distribution of quantities of useful information to users within and without the companies involved. The CONVERSE system used by the Lockheed Missile and Space Company, as described by Drew and others (1966:3-7), is yet another example of an agency's reliance upon internally generated data for the operation of its information center.

The theses and dissertations presented to a university by graduate students as part of their degree requirements represent another form of internally generated data. The rapid increase in this type of information, accompanied by the decrease in utility which storage difficulties had produced, prompted Knill and others (1966) of the University of Alberta to develop a storage and retrieval system suitable for education theses completed at the

University. This scheme employed a "visual bibliographic system" to classify all theses and dissertations written at the University of Alberta between 1929-1967 (see Figure 2). The completed bibliography, printed in booklet form, was made available to interested individuals. The third revision of this booklet was printed in 1966 and contained 590 titles, a total which approached the maximum that this type of system could usefully accommodate.

As part of his degree requirements, Balchan (1968) expanded Knill's original project through the use of a multidimensional system of classification and retrieval combined with short abstracts of the theses and dissertations. These improvements were accomplished by synthesizing the work of Smith (1949) and Anderson (1958) with a modified version of the McBee Keysort Card (see Figure 3). Smith and Anderson had prepared brief abstracts of the theses recorded in the classification booklet. The McBee Cards introduced mechanical sorting, which facilitated the retrieval of documents according to the increased number of dimensions.

The success of the Alberta Information Retrieval for Health, Physical Education and Recreation System, a thesis completed by Watts in 1970, indicated that a retrieval program could be established to work with theses obtained from external sources as well as local sources. However, the substantial number and diversity of topics contained in the education theses and dissertations at the University of Alberta was presumed to offer a sufficient base for the testing of the present project. The complete selection of topics was considered to be representative of the field and capable of forming the foundation for a "data bank" of educational research

- ALLISON, C. J. Characteristics of Students who failed Grade Seven in Edmonton Junior High Schools 1951-1952
M.Ed. 1959
- MALLETT, I.B. A Study of Factors Associated with failure in Selected Subject Areas of Grade 10 and 11.
M.Ed. 1963
- SISTER MARY ANNATA BROCKMAN
Relationship Between Transiency and Test Achievement of Grade Six Students.
M.Ed. 1965
- J. PUPIL ATTENDANCE
- DROLET, J. Y. A Study of the Impact of Demographic and Socio-Economic Factors on School Attendance Rates in the Province of Quebec from 1901-1951.
Ph.D. 1961
- K. STATISTICAL AND COMPUTER DESIGN
- HEMPHILL, H. D. A Survey and Analysis of the Adoption of Automatic Data Processing in Canadian School Districts.
M.Ed. 1966
- L. PHILOSOPHY OF EDUCATION
- BLAKE, W.N. John Dewey's Concept of Work and Educational Implications.
M.Ed. 1965
- COLL, E. B. Jacques Maritain: Man and Educator.
M.Ed. 1955

Figure 2

Sample Page from "A Classification of Theses in Education
Completed at the University of Alberta."

(Third Edition, 1966)

information.

DOCUMENT ORGANIZATION

Artandi (1968:18) suggests that two assumptions must accompany any organized system for the retrieval of documents if that system is to be effective:

(1) It is possible to describe the contents of documents adequately by assigning subject tags to them.

(2) The searching of a file of these tags, which are tied to document references, can serve as a satisfactory substitute for the scanning of the entire collection and that it will indicate the absence of, or the existence and location of, items relevant to an information request.

Indexing and classification procedures are the means by which the natural language of the author can be regulated and modified so as to comply with the language constraints of the storage system. The "tagging" mentioned by Artandi involves the indexing and classifying steps; the care with which these steps are completed determines the degree of accuracy of the assumptions.

The following sections present certain theoretical and practical considerations which impinge upon the development of classification and indexing methods.

Classification. Any information system must provide an efficient and rapid method of retrieving stored information if it is to be of any practical use. In speaking of the functions of classification, the British Standards Institution (1963:6) identified two important considerations:

(1) Without some kind of organization of the stock according to its subject matter, a request for information means that every document in the collection must be scanned if nothing relevant is to be overlooked.

UNIVERSITY OF ALBERTA EDUCATIONAL RESEARCH CLASSIFICATION INDEX										UNIVERSITY OF ALBERTA EDUCATIONAL RESEARCH CLASSIFICATION INDEX																			
RESEARCH DESIGN					RESEARCH DESIGN					RESEARCH DESIGN					RESEARCH DESIGN														
U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.	U.S.										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
AD	EM	IL	MP	QT	UZ	AD	EM	IL	MP	QT	UZ	AD	EM	IL	MP	QT	UZ	AD	EM										
1ST LETTER					2ND LETTER					3RD LETTER					4TH LETTER					5TH LETTER									
A U T H O R										I N D E X										S U B J E C T									
KOLEGAR, HENRY																													
PH.D. 1967																													
AN EMPIRICAL STUDY OF CLIENT ALIENATION IN THE BUREAUCRATIC ORGANIZATION.																													
244 pp.																													
<p>The School Organizational Inventory was administered to four hundred three teachers in twenty Alberta high schools. Four types of bureaucratic schools were identified--monocratic, punishment-centered, collegial or representative, and mock. The Pupils Attitude Questionnaire was administered to more than seventeen hundred pupils in twelve of the original sample of twenty high schools, providing scores on five dimensions of alienation: powerlessness, self-estrangement, isolation, normlessness, meaninglessness, and a total score obtained by combining scores on the dimensions.</p> <p>The findings support the conclusions that schools differ in bureaucratic type and that the degree of pupil alienation also differs significantly on the powerlessness dimension and in the combination of dimensions in association with differences in school structure.</p>																													

Figure 3

Example of the Modified McBee Keysort Card Used by Balchan as an Integral Part of His Multidimensional Classification System. Notches on the Perimeter of the Cards Permitted Mechanical Sorting during the Searching Operations.

(2) By establishing clearly demarcated groups or classes of documents on related topics, the number of documents to be scanned can be reduced to feasible proportions, since those clearly irrelevant classes can be ignored.

Vickery (1965:5) pointed out that classification was an essential device even in restricted fields of knowledge and indicated that there was a growing demand for special cataloging procedures in such areas. Barhydt and Schmidt (1968:1) also recognized the need to control terminology, and stressed the problems which were peculiar to the field of education:

It is of particular importance in information retrieval systems in the humanities and social sciences, where interdisciplinary contributions with their shifting denotations and elusive connotations, present special problems.

The great variety of terms occurring in documents can be reduced at the time the data are prepared for storage by the imposition of a controlled vocabulary utilizing standard descriptors. The use of such a regulated vocabulary not only reduces the number of unique terms to be stored, but also helps to ensure retrieval of relevant documents by standardizing subjects descriptions. Highcock (1968:96) suggests that the ultimate device to enforce the vocabulary control is a thesaurus which lists the terms the system will accept and which also exhibits the inter-relationships between these terms. A comparative study of three types of indexing languages conducted by Hyslop (1965:708-714) concluded that "The thesaurus holds the best promise, particularly because it lends itself well to machine methods." The thesaurus of education terms developed by Barhydt and Schmidt (1968) provides a comprehensive list of terms which serve as the bases for the classification of the documents to be stored. This thesaurus, the Information Retrieval Thesaurus of Education

Terms, contains two basic and interdependent sections: an alphabetical word list (see Figure 4) and a faceted or classified array (see Figure 5). The alphabetical array follows the traditional thesaurus format in attempting to control natural language synonymy: it is also the means of directing a user from nonindexable terms, through which he may enter the thesaurus, to the preferred and indexable synonyms. The faceted array makes provision for the indexing and retrieval of information of a compound or detailed nature. Vickery (1968:8) suggested that facet classification would permit individuals to retrieve a document on a specific compound subject "Not only when they look for that particular subject, but also when they look for any term in the compound, or for any collective term embracing a term in the compound." A further example of the use of alphabetic and faceted arrays appears in Appendix A.

Halpin (1967:33) mentioned that there are two approaches to classification which appeared to be in general use. The first involves the development of a classification scheme without specific reference to the documents to be handled. The documents are then prepared and modified to integrate with the system so designed. The second approach utilizes a selection of relevant documents as the guideline for the development of the classification scheme. The terms used as legitimate descriptors in the second system were selected from the guideline documents. An infinitely more flexible but highly complex plan was advanced by Hayes and Becker (1963:49), who suggested that the classifications could be automatically reorganized from time to time depending upon current use of the files.

THESAURUS	ABACUS
PART ONE: ALPHABETICAL ARRAY	RT 15015
	ABILITY
	SN *
	RT 6001
	Ability Grouping
	Ability Test
	Aptitude
	Handicap
	Individual Differences
	Skill
	ABILITY GROUPING
	UF Streaming
	BT Homogeneous Grouping
	RT 2009
	Ability
	ABILITY

Figure 4

Illustration of the Contents of the Alphabetic Section
of the Barhydt and Schmidt Thesaurus

THESAURUS	FACET 1	FACET 1
	SUB-FACET 1001	SUB-FACET 1003
PART TWO: FACETED ARRAY		
	AUDIENCE	EXCHANGE TEACHER
	PERSONNEL	HOMEROOM TEACHER
	POPULATION	INSTRUCTOR
	STAFF	LECTURER
		PROFESSOR
	CLIQUE	RELIEF TEACHER
	CLUBS	SCHOOL TEACHER
	FOUR H CLUBS	SUBSTITUTE TEACHER
	FRATERNITY	TEACHER
	SORORITY	VISITING TEACHER
	STUDENT COUNCIL	
		GRADUATE ASSISTANT
	ETHNIC GROUP	RESEARCH ASSISTANT
	MINORITY GROUP	
	PEER GROUP	LAY READER
	PRESSURE GROUP	TEACHER'S AIDE

Figure 5

Illustration of the Contents of the Faceted Section
of the Barhydt and Schmidt Thesaurus

The classification procedures employed in this project were established following a preliminary trial period, which involved the elimination of certain terms from the Barhydt and Schmidt thesaurus, as well as the addition of a limited number of terms to that thesaurus. These changes were made at the end of the trial period, but well in advance of the completion of the indexing operations. This represents a compromise between the two classification methods, and produces a comparatively uncomplicated method of preparing documents for storage.

Indexing. The field of information science is widely investigated yet only partially understood. As Vickery (1965:179) indicated, "There is yet no unified theory of retrieval systems and a good deal of retrieval is still an empirical art, unsullied by theory."

This belief was supported by results obtained by Saracevic (1969:348) who discovered that "A combination of indexers' decisions and limitations of the indexing language contributes approximately 31 per cent of the missing of relevant documents." He went on to estimate that "Human factors contribute to approximately 75 percent of missing relevant documents."

These figures represent a strong argument for the elimination of the human element in the indexing process, yet there are those who counter with arguments in support of the role to be played by human indexers. Thus two differing approaches strive for acceptance as the most effective method of indexing documents. Some support the automatic indexing system, which mechanically assigns identifying

characteristics to documents, while others seek to retain the manual indexing approach which relies upon specialists to perform that function.

A supporter of the manual approach is Vickery (1965:25), who justified his position by saying that:

Insofar as human understanding is involved, indexing will remain an art, feasible only to humans, at least until we know a great deal more about understanding than we do today.

Vickery's position was accepted by Sommerfield (1968:119), who felt that, despite the shortage of skilled manpower to perform indexing functions, the difficulties and shortcomings of automatic systems would lead to a reliance upon manual systems for some time to come.

Slamecka and Zunde (1964:114-118) noted that automatic processing apparently produces a deeper analysis than that considered sufficient by manual indexers and manages to do so without introducing extraneous subject assignments into the index. Similarly, Lesk and Salton (1966) were strong in their support of the advantages of automatic text analysis and indexing. Their impressions were reinforced by the results of experiments using the SMART system, a fully automated document retrieval system located at Cornell University. They recommended that future information centers should employ automated methods at all stages of information handling.

The uncertainty which surrounds the final selection of the proper indexing method was underscored by Simmons (1965:217), who assumed that computer developments would eventually permit the effective processing of natural language entirely by machine, in order that "people will be able to use them as natural text

information sources." However, he qualified this adding that the present lack of understanding of the encoding process prevents the adoption of the completely automated system.

The uncertainties accompanying the automated approach to indexing, combined with the added costs involved, resulted in the decision to employ a manual indexing approach for this project. Certain findings related to the time and expense of using manual methods were recorded and presented in the final chapter, and these indicated a need to explore the use of automated indexing at greater length.

DOCUMENT STORAGE

The development of appropriate devices for the storage of information has reached the stage where a problem exists in the selection of the most useful system from among many potentially useful systems. Decisions must therefore be based on a thorough understanding of what is actually required and what specific advantages the various devices have to offer. A vitally important factor is the consideration of the cost of equipment as compared to the improved services which this equipment will provide.

Barnard and Abbott (1963:11) used the term "level of mechanization" to indicate that machinery of varying degrees of sophistication was available for the storage of information. They included storage systems ranging from the edge-punched cards to modern electronic computers in their survey. They also mentioned that for a given set of circumstances the edge-punched card could be considered superior to the advanced electronic systems. They

believed that where cost was a factor any information system would have to reach a minimal content level before computers would be a wise economic move.

While the edge-punched card system has a maximum capacity for efficient storage of information, computers are approaching the unlimited storage capability. As Licklider (1965:71) stated, "We are rapidly approaching a time when it will be possible to store 10 per cent of all solid science and technology within a single computer system." A project designed to produce machine-readable catalogue records for the Library of Congress, the MARC project (1967:1-16), has made great strides towards this volume of storage. King (1967:108) estimates that the MARC system will need to have the capacity to store 10^{12} bits of information.

Paralleling this increase in the capacity of computers has been the reduction in the time necessary to complete computer calculations. Doyle (1967:280) mentions that silicon transistor circuitry permits the storage of up to sixteen million characters in auxiliary memories, a single character of which can be transferred to the central computer within micro-seconds. The net result of these improvements has been the development of computers which can match the need of any user. The only difficulty lies in making the choice which best matches the specific needs and limitations of a particular user.

Computer storage systems are basically well organized files which are capable of retaining information in such a manner that retrieval merely depends upon the appropriate request. The various types of files used in mechanized systems have individual

advantages; the appropriateness of one rather than the other is determined by the limitations imposed by the user. Hazlett (1969: 12) describes three methods of filing data which are frequently used with computers; sequential file, random file, and list file.

Sequential File

The sequential file, also known as direct file organization, demands that documents be stored in a specific sequence. A search involves a sequential scanning of the entire field and, while the desired information bearing the appropriate tag or tags can be obtained, the procedure is a lengthy and costly one. Changes in the form of additions or subtractions represent a further disadvantage to this form of file organization.

Random File

In the random file, a key which indicates the address of a document is formulated at the time the abstract is stored. This address is used again when the document is to be retrieved. No attempt is made to order the documents in the file, since the address is known and recorded for each piece of information stored. The random file approach has certain advantages over the sequential file approach, particularly because its time required for searches is much less while its flexibility in adding or subtracting information is much greater. However, these advantages are gained at the expense of greater complexity and increased storage requirements.

List File

The third type of file included in Hazlett's review is the

list file, which uses cross references, or "pointers," to locate documents on similar topics. Each document carries pointers to other documents which are considered to be of a comparable nature. The specific advantage in this type of file is the ease of updating the file, whereas the disadvantage is represented in the amount of core storage required.

In an article emphasizing the need for an improved understanding of file organization, Warheit: (1967:259-267) identified the simple serial or sequential file organization as the preferred method for general information retrieval systems. In the case of larger systems, in which real time response is required, he recommended the use of a combined serial and random access file organization. The list process file involves serious maintenance problems with a consequent reduction in overall effectiveness.

In the present project, both random access and sequential files were used. The random access files stored the descriptors and the associated thesis reference numbers linked by means of a cross-referencing system to the sequential file. The sequential file was used to store the bibliographic citations and the abstracts of the theses. Use of both types of files permitted the inclusion of a considerable volume of information in the sequential file, and preserved the speed of retrieval characteristic of the random file.

DOCUMENT RETRIEVAL

The retrieval of relevant information is basically a function of the specificity of the request and the accuracy of the cataloging process. Examination of a telephone directory for

individuals with a surname of Robertson would produce a significantly greater number of qualified candidates than would be obtained if the name John Robertson were to be sought. Similarly, an examination of the directory for the age of John Robertson would prove to be a fruitless task. Three important points emerge from this comparison: (1) the more specific the request, the more limited the output will be; (2) only that which has been stored can be retrieved; and (3) the relevance of the material retrieved is largely determined at the time of the original indexing by the quality of that indexing. The components of the computer system which produce the results for the user will not overcome deficiencies in the previous stages, but will merely display those results which are within the capabilities of the system.

Present day computers can create output data which may range from a simple identification number to a complete copy of the text. The factors of time, immediacy of need, and cost must each receive careful consideration, since one can usually be gained only at the expense of the others.

In instances where computers are selected as the means of producing the required data, a further decision must be reached which involves a choice between Batch-Processing Systems and Real Time Systems. A Real Time system cannot be justified economically unless it is shared among several active users, thus necessitating the development of a time sharing scheme. When the immediacy of the response to the request for stored information is not particularly urgent, or when the economies of the operation prevent participation in the time sharing process, the Batch-Processing

system provides an adequate alternative.

A major deficiency which accompanies the Batch-Processing system is the time delay between the submission of the request and the display of answers. Placing a request one day and receiving the answer the following day, or at best some hours later, represents a serious limitation for some users. The use of reactive typewriters aids in the reduction of this difficulty; their use represents an added quality which will encourage the application of this approach. Licklider (1968:3) presents an argument which supports the expansion of this computer capability.

However, many problems that can be thought through in advance are very difficult to think through in advance. They would be easier to solve, and they could be solved faster, through an intuitively guided trial-and-error procedure in which the computer cooperated, turning up flaws in the reasoning or revealing unexpected turns in the solution.

This conversational questioning enables the requestor to ascertain the amount of information available as a response to his initial question, and then, by broadening or narrowing his search where volume demands, he can obtain a suitable quantity of information without undue delay. The Bibliographic On-Line Display System (BOLD) is one such retrieval system, and, as Burnaugh (1967:53-66) indicated, the allowance for interchange between man and machine permits the user to browse. According to Rigby (1965:49), this "browsability" is invaluable, and will permit the user to read printouts as easily as the morning paper. The MERGE system, explained by Balz and Stanwood (1965:61-69), and the newer Information Retrieval Management System (IRMS), both of which are products of IBM, employ the idea of reactive typewriters and real

time operation to increase the degree of involvement between the user and the system.

This researcher considered this interjection of the user into the final retrieval operations to be a valuable innovation. An attempt at such an interjection method was therefore employed. The resulting system, which has divided the retrieval process into two separate steps, permits the user to gain control of the final selection of abstracts.

SUMMARY

Modern computer technology has reached a level of sophistication which permits the satisfaction of the requirements for virtually any information system. Whatever is requested can be designed. As might be expected the usual limiting factor is a financial one. Decisions made with respect to the selection of components for this project were based upon (1) the need to remain within a limited budget, and (2) the desire to include certain of the advances which would improve the usefulness of the results obtained. The completed project represented a compromise between the financial restraint and the desire to make improvements to the system upon which it was patterned. The financial restraint served to limit the number of changes to be added but the direction these changes indicated remained the same.

Chapter 3

SYSTEM ORGANIZATION

The thesis storage and retrieval project involved the development of several separate processes which were eventually fused to form a single system. The fact that these processes were eventually to be combined necessitated the careful structuring of each separate stage to ensure their compatibility with the total system. The following chapter is devoted to the procedures which were followed during the development of each phase and the reasoning which contributed to the adoption of those measures.

DOCUMENT SELECTION

The documents which formed the data base for this system were the abstracts of theses and dissertations completed in the Faculty of Education at the University of Alberta from 1929 to 1969. For the purpose of testing the project only those abstracts of theses and dissertations submitted to the Department of Educational Administration 1957-1969 were processed. These abstracts had been prepared as part of an ongoing project conducted through the Department of Educational Administration. The inclusion of the submissions from the Departments of Elementary Education, Educational Foundations, Educational Psychology, Secondary Education, and Vocational Education and Industrial Arts was intended to follow the successful completion of this experimental project.

DOCUMENT PREPARATION

The preparation of documents involved two separate but interdependent procedures. The first consisted of indexing the abstracts in accordance with the program restraints established by Watts (1970) for his information retrieval system. This was a necessity since the programs developed by Watts for his project were used during the preliminary retrieval operations of this study. An essential part of indexing procedures was the control of the terminology, a control provided by a thesaurus of indexing terms.

The second procedure involved the treatment of the abstracts as separate units since they were stored under a separate retrieval program. The texts of the abstracts were added to supplement the purely bibliographic content which characterized the Watts system. The interdependence of the two retrieval programs was achieved by assigning common document code numbers to each document stored.

Thesaurus Selection and Refinement

The Information Retrieval Thesaurus of Education Terms, developed by Barhydt and Schmidt (1968), was used as the foundation for the thesaurus used in this project. This thesaurus was selected as the basic instrument because the researcher could capitalize on the extensive testing which had been carried out during its development. Similarly, the thesaurus had evolved in a computer environment at the Educational Media Research Information Center of Case Western University and possessed compatibility with computer systems.

The thesaurus, (see Appendix A), underwent two revisions prior to the final designation of those terms which were to be

accepted as legitimate descriptor terms. The first revision involved a careful examination of the contents resulting in both the deletion and addition of certain terms to make the thesaurus consistent with the Canadian environment. These produced a thesaurus of 2011 indexable terms, which represents a slight decrease in the number of terms included in the original thesaurus.

The second revision was completed following the experimental indexing of 100 documents using the first revision. During this trial period deficiencies were noted and, where feasible, these deficiencies were corrected. Rigidity of term control and inconsistency with Canadian terminology proved to be the most frequent causes of deficiencies. Not all indicated deficiencies were eliminated, since this would have greatly altered the length of the final thesaurus. The results of the revisions produced a total of 1978 indexable terms.

Indexing of Bibliographic Content

The thesaurus served as the authority list for the indexing procedure; only those terms which were accepted as descriptors by the thesaurus were used. The structured display of relationships between index terms, which are found in both the alphabetic and faceted segments of the thesaurus, improved the depth of subject analysis of the documents handled.

The major objective of the indexer was to designate the terms in such a way that future requests would effect the easy retrieval of the appropriate documents.

The maximum number of descriptors which could be assigned

to any single document was twenty-four. The number actually used varied from document to document. On the average, seven terms were assigned to each document.

The procedures adopted for the indexing were as follows.

1. The indexer recorded the bibliographic details outlined in the abstract on the coding form (see Appendix B). This information included the document reference code, the author's surname and initials, the title of the thesis, the department to which it had been presented, the year of presentation, the degree earned, the number of pages in the thesis, and a library identification number. This final item enables interested individuals to locate a copy of the complete thesis from the reference room of the Cameron Library at the University of Alberta.

2. The indexer read the abstract and attempted to select keywords which conveyed the meaning or intention of the thesis. The emphasis was on the choice of concepts which would be relevant for those searching the system at some later time. The keywords selected were recorded as natural language concepts on the coding form.

3. The natural language concepts were used as entry points to the thesaurus from which the authorized descriptor terms were selected. The indexer relied upon the interrelationships contained in the alphabetic and faceted sections to increase the number of terms used to index the abstract. The use of additional indexing terms improved the precision of retrieval.

Preparation of the Abstract

The abstract was recorded on a coding form similar to the indexing form used with the bibliographic content. This second form, (see Appendix B), contained two departures from the procedures used with the first form. The document reference code was shortened from fifteen alphameric characters to five numeric characters, and descriptor terms were not employed. In place of the descriptor terms the complete text of the abstract was used. Space was provided for a maximum of 200 words for any one abstract; this was considered adequate space since the abstracts average less than 150 words with a maximum of just under 190 words.

STORAGE OF INFORMATION

Thesaurus Descriptors

The authorized descriptors contained in the thesaurus were recorded for storage on a thesaurus term coding form (see Appendix B). From this coding form a profile of machine cards was prepared for the initial entry of the thesaurus terms into the system. Since these terms were required each time a storage or retrieval operation was initiated, the decision was made to store the complete list of thesaurus terms on magnetic tape. This form of storage facilitated the frequent use of the large number of terms and reduced the difficulty associated with the handling of large numbers of cards.

Each thesaurus term was assigned a term code number which was employed during the search phase of the program. These term code numbers were also used to identify inaccuracies in indexing. An error

message, using the term code number, was issued each time an incorrect term was used.

Bibliographic Information

An input profile of machine cards was prepared from the indexing coding form (see Appendix C). The profile for each document included three records; the author-title record, the source record, and the descriptor record. These records were keypunched onto machine cards, which numbered between five and ten cards per document. The document reference code identified each card belonging to a specific document and prefaced the information punched on the cards. The document reference code used the following format:

NNNNN-AAAAAAAAA

N represents a blank or a number 0 to 9

A is a letter of the author's name with
initials where possible.

The author-title record consisted of two or three cards, depending upon the length of the title. Each card carried a record identifier and a sequence number in addition to the document reference code number. The identifier and sequence numbers were valuable during the preparatory steps which preceded the actual filing operations.

The source record consisted of a single card which had unique record identifier and record sequence numbers. The data contained on this card consisted of information pertaining to the department in the Faculty of Education, the year of presentation, the degree earned, the length of the thesis, and a library identi-

fication number.

The descriptor record consisted of from one to six cards, upon which were recorded the descriptors selected to index the abstract. Each card could accommodate a maximum of four descriptors, thus providing space for twenty-four descriptors for any one document. The program was designed to search for either a blank descriptor field or a complete list of twenty-four descriptors in order to terminate the processing of any specific document.

The bibliographic information was stored on magnetic tape to overcome the difficulties attending the use of cards as a means of storage. The programs were written to accomplish this conversion of the data from machine card input to magnetic tape storage.

Text of the Abstract

A series of three records, contained on machine cards, was used to introduce the textual material of the abstract into the storage devices of the system. The author-title record consisted of from one to three cards, the source record required a single card, and the abstract record consisted of from one to eighteen cards. Each of the record cards possessed a unique record identifier and a sequence number. The format followed in the preparation of these records is illustrated and explained in Appendix C.

The number of machine cards required to store the texts of the abstracts was extensive and therefore the program controlling this phase was written to transfer the storage to magnetic tape.

.....
Bibliographic Contents

The recall precision of the system was found to be improved through the use of a well-structured questioning technique. This technique employed the thesaurus to provide the searcher with the list of accepted descriptor terms in formulating his search parameters. These parameters defined the field of search. Although natural language concepts provided entry points to the thesaurus, only authorized descriptors could be used to structure the search requests. Use of the thesaurus resulted in the selection of a greater number of terms and therefore enhanced the possibility of satisfying the requests submitted to the system.

The user was encouraged to formulate his search request with maximum clarity and at the broadest level possible. Compliance with these requests facilitated the completion of the question coding form (see Appendix B) from which machine cards were prepared for the searching operation. The output from the search is illustrated in Figure 6.

When the user sought to identify a thesis by a specific author, the author's name became a legitimate descriptor. Since these specific descriptors were not recorded in the thesaurus the user was required to duplicate the author's name as it had been used in the author-title record.

Five types of machine cards were prepared from the question coding form; two of these cards identified the user and stated the question, while the other three defined the area of the search. Illustrations of all five types of cards are included in

QUESTION NO 12

USE OF SEMESTER SYSTEM IN ALBERTA SCHOOLS

DATE 10/08/70

AND

D SEMESTER SYSTEM
D TRIMESTER SYSTEM
D SCHOOL YEAR

AND

D EVALUATING
D COMPARING
D ANALYSIS

00007-ARNOT

ARNOT J.E. ADVANTAGES AND DISADVANTAGES OF THE
SEMESTER SYSTEM AS PERCEIVED BY ALBERTA PRINCIPALS

ADMIN

1969

M.ED 150 FA 0014

00083-GIRARD

GIRARD D.A. LEARNING EFFECTIVENESS UNDER THE TRIMEST
ER SYSTEM OF SCHOOL-YEAR ORGANIZATION AT THE LINDSAY THURBER
COMPOSITE HIGH SCHOOL, RED DEER, ALBERTA

ADMIN

1962

M.ED 070 FA 0029

FIGURE 6

SAMPLE SEARCH OUTPUT

Appendix C.

Individual Abstracts Texts

As a product of the original request, the user received a listing of the documents, with their bibliographic details, which satisfied the parameters of the search instructions. In addition, machine cards bearing the document reference code numbers for all theses identified in the listing were punched and issued to the user.

A decision was then required as to whether the indicated theses (a) were adequate or (b) were not adequate for his wants. If his decision was the latter, he was expected to restructure the parameters of his original question in an attempt to obtain a return in keeping with his requirements. On the other hand, a positive reaction enabled the user to retrieve the complete abstract for any or all of the documents referred to in the printout. The final retrieval was effected by the submission of the machine cards bearing the document code numbers to the system. The resulting printout contained the bibliographic particulars as well as a complete abstract of the theses concerned. An example of this product is given in Figure 7.

SUMMARY

The passage of information through the system was facilitated by a careful development and integration of the component phases. Of paramount importance was the phase concerned with the preparation of the data. With this in mind, coding forms and coding regulations were developed to minimize the possibility of errors. Adherence to these regulations resulted in a disproportionate amount of time

1243A1SROYPAN, L. AN INVESTIGATION OF STUDENT SELECTION PRACTICES IN

1243A2EDMONTON HIGH SCHOOLS.

B1

ADMIN

1968

M.ED

108

C1 THIS STUDY WAS DESIGNED TO DETERMINE THE METHODS OF STUDENT SELECTION
C2 IN EDMONTON COMPOSITE HIGH SCHOOLS AND ALSO TO ESTIMATE THE EFFICIENCY OF
C3 THESE SELECTION METHODS AND PROCEDURES. 601 STUDENTS ENROLLED IN GRADE
C4 X WERE TRACED TO THEIR GRADE 12 YEAR. STEPS IN REGISTRATION AND SELECTION
C5 OF STUDENTS IN THE SENIOR HIGH SCHOOLS WERE BASICALLY AS FOLLOWS: PROVI-
C6 SIONS FOR HELPING THE JUNIOR HIGH SCHOOL STUDENTS ENTERING GRADE TEN
C7 BEFORE ENTERING THE SENIOR HIGH SCHOOLS; PRELIMINARY REGISTRATION; ACTUAL
C8 REGISTRATION; AND PROVISION FOR CHANGE OF PROGRAM STUDENTS. THE CRITERIA
C9 USED BY THE SENIOR SCHOOLS IN ASSIGNING STUDENTS TO PROGRAMS WERE: GRADE
D1 9 MARKS WHICH MATCHED THE PROGRAM REQUIREMENTS SET BY THE INDIVIDUAL
D2 SCHOOLS. IN ESTIMATING THE EFFICIENCY OF SELECTION PRACTICES, PROGRAM
D3 ENROLMENT, CHANGE OF PROGRAM, SCHOOL ATTENDANCE, AND ACHIEVEMENT WERE
D4 USED AS CRITERIA. THE EFFICIENCY OF SELECTION PRACTICES OF EDMONTON
D5 COMPOSITE HIGH SCHOOLS WAS CONSIDERED TO BE HIGH.

Figure 7

Sample Printout of Abstract Search

being devoted to the preparatory phase of the system. However, the time spent during the initial stages did result in a smooth transition through the computerized phases and effected an efficient retrieval of requested information.

Chapter 4

SYSTEM CAPABILITIES

The following chapter provides a brief description of the specific programs used with the system and includes the various functions that these programs performed. The programs involved in the search and retrieval of bibliographic information were developed by Watts (1970), and were adopted for this study. The specific programs chosen from Watt's Alberta Information Retrieval for Health, Physical Education and Recreation system (AIPHER) were: PRE-FILE, FILE, SEARCH, TALLY, and LIBRARY. These programs were supplemented by two new programs created to manipulate the filing and retrieval of the texts of abstracts. These additional programs were named AB-FILE and AB-PRINT.

Watts' Bibliographic Retrieval Programs

PRE-FILE. The PRE-FILE program was used to introduce the thesaurus terms into the system and to verify the accuracy of the records forming the bibliographic information. The program checked the descriptor terms assigned to the documents with the list of accepted descriptors as recorded in the thesaurus. The system then printed out the citation details for each document submitted for verification, and indicated the descriptor terms which were not in accordance with the thesaurus list. Errors indicated by the PRE-FILE program were corrected prior to the FILE phase to ensure that

the documents stored possessed only legitimate descriptor terms.

The use of a thesaurus composed of 1978 terms require a modification to the method of introducing terms of the thesaurus. In the Watts' project the number of thesaurus terms was small enough to permit the use of a thesaurus recorded on punched cards. The problem associated with the greater number of terms was solved by recording the thesaurus terms on magnetic tape; this tape was used each time the thesaurus was required.

FILE. The FILE program was a branching operation, whereby three separate but interdependent files were created and prepared for later use. The capacity of these files was established at a level beyond immediate needs in order to make provision for later additions or changes to the documents filed. The three files created by this program were the citation file, the caretaker file, and the inverted file. The citation file and the inverted file were stored on magnetic tape while the caretaker file was stored on punched cards.

The citation file stored the bibliographic data in sequential files using document numbers as the "tags" used during retrieval operations. This file was used as the source of information for the printout following each search.

The caretaker file performed maintenance functions for the inverted file as well as regulating updating operations. The fact that the caretaker file would change with each update of the other files necessitated the use of punched cards rather than tape as the storage medium.

The inverted file functioned primarily during the searching procedures and provided a system of links between document numbers and term code numbers. This linkage enabled a search request to be directed to the appropriate documents rather than to each and every document stored in the system.

SEARCH. The third program was designed to match the descriptor terms of stored documents with the parameters established by the search request. The inverted file contributed most to the performance for the search procedure. This type of file permitted a rapid search, since only potentially pertinent records were examined. The rest of the file was by-passed. However, the storage limitations associated with inverted files necessitated the use of a second file to store citation particulars. Hence, a cross-referencing system was employed to link the descriptor terms stored in the inverted file with the citation details stored in the citation file.

The SEARCH program imposed an important limitation upon requests for the abstracts of theses by specific authors. This limitation was the need to include a descriptor parameter before the submission of an author term when formulating search parameters, and hence served to reduce the number of citation records to be searched. Familiarity with the contents of the file was therefore demanded, but this was not always possible.

TALLY. The TALLY program was designed to provide relevant information regarding the frequency of use for the documents in the system. Following the SEARCH program a cumulative use total was

calculated for each document. The totals available from this program were useful in the evaluation of the popularity of the documents within the system. Examination of the results of this program also served to indicate documents which might be in need of re-indexing.

LIBRARY. The LIBRARY program served to prepare a complete list of the contents of the citation file and thereby produced the bibliographic particulars for each document stored in the system. This program, which was in reality a listing of the contents of the magnetic tape files, served as a constant check on the information stored in the system.

Abstract Retrieval Programs

Once the results of the search for bibliographic citations had been made known, the user was required to issue additional instructions to the system. He was required (1) to make subjective judgments as to the relevance of the information he had received and (2) to designate the specific documents for which he desired the complete abstract. Two programs, the ABFILE and the ABPRINT, were written to accomplish this final step in the retrieval process.

ABFILE. The ABFILE program controlled the storage of the abstracts of the theses in the files of the system. Unlike the FILE program used to store the bibliographic citations only a single file was created and that was a sequential file.

Data were introduced into the particular abstract file by

means of machine cards and then stored on magnetic tape. To ensure compatibility with the Bibliographic programs the abstracts were stored using the same document numbers which were used to identify the bibliographic citations. The use of a sequential file to store the texts of the abstracts facilitated later additions as well as ease of retrieval. This file was recorded on the same magnetic tape that held the thesaurus terms but on a different tape from the location of the citation details. The use of two magnetic tapes was a concession to future additions, since a single tape would have been feasible for the project but would have resulted in complicated revision procedures.

A sub-routine was included in the ABFILE program to ensure that the documents submitted for storage had been arranged in the correct sequence. Failure to arrange the documents in the proper sequence prior to actual storage would result in the loss of some of the textual material from the printout.

ABPRINT. This second program represented the final link in the system and was designed to respond to the user's decisions regarding the relevance of material indicated following the SEARCH program. The ABPRINT program, which was a simple search program, was a much more simplified program than the SEARCH program used to obtain bibliographic details. The sequential tape file containing the complete listing of the texts of the abstracts was searched and those abstracts bearing the appropriate document code numbers were replicated. A necessary provision for the searching of the abstracts file was that the request be submitted in an order which matched the sequential arrangement of the file itself.

The updating of the file containing the abstracts texts necessitated the re-creation of the entire file. This necessitated the retention of the original machine cards which had been used to introduce the information into the system. This permitted additions or corrections to be made but presented a problem in that the deck of cards had to be maintained in good repair.

The capacity of the file was adequate for the number documents employed in the project and was capable of accommodating all thesis abstracts stored in the Department of Educational Administration Library.

SUMMARY

The various programs used in the system effectively facilitated the movement of information through the basic phases of an information storage and retrieval system as identified in Chapter 2. Use of the verifying provisions of the PREFILE and ABFILE programs provided a measure of quality control, while the retrieval procedures efficiently managed the display of stored information. Storage capabilities were enhanced through the use of magnetic tapes rather than the machine cards used by Watts.

The addition of complete abstracts to supplement the bibliographic citations was found to provide a valuable source of information for users of the system. Interjection of user control over the final retrieval phase represented a further change which enhanced the value of the total system.

Chapter 5

SYSTEM PERFORMANCE

The results of tests using the existing base of theses abstracts indicates that the system presented in this study has the potential to fulfil a useful function in the field of educational research. The system replaces many hours of manual searching with relatively short period of structured questioning. The data which was obtained as a result of the system's operation was found to be in keeping with the needs of those who submitted questions to the system.

The restricted field of information stored within the system's files limited the number of individuals who were able to make profitable use of the contents. This number will increase with the input of additional data.

The retrieval efficiency of the project was calculated for a number of trial searching operations. Results indicated that the system was highly efficient at retrieving the desired information but that this retrieval was on certain occasions complicated by an abundance of irrelevant documents.

Many factors contribute to the degree of success of an information system. This chapter examines these factors and attempts to assess the level of effectiveness for each factor.

THE THESAURUS

The procedures followed by Barhydt and Schmidt in the preparation of the Information Retrieval Thesaurus of Education Terms were consistent with the requirements of an education retrieval system. Their efforts produced a document containing a selection of terms which encompass the many facets of present-day education. This breadth of coverage was deemed a necessity, since the system would eventually include all departments in the Faculty of Education. The faceted approach used in the thesaurus represented a second advantage. This approach encouraged users both indexers and searchers to increase the number of terms which they employed in their coding activities. The greater the number of terms used at both the indexing and searching stages, the greater the possibility of coincident use of terms. Such coincident use of terms is efficient and effective for retrieval.

Acceptance of the basic objectives which guided Barhydt and Schmidt in term negotiation and thesaurus prompted this researcher to make only minor changes in adopting their thesaurus for use in this project. This provided an opportunity to determine the effectiveness of a thesaurus containing many terms interrelated by means of the faceted approach. Changes were made in an attempt to make the terms of Barhydt and Schmidt more compatible with the Canadian scene.

Thesauri are designed to control the number of terms used to index documents and inevitably lead to compromises. However, one feature of this restriction was not expected; it has resulted in the uncertain labeling of some documents. This restriction

stemmed from the decision to exclude the names of individuals and test instruments from the list of acceptable descriptors. This decision was made in the hope that the thesaurus would be kept to a reasonable length. As a result, certain documents were found to be less accessible than they would have been under a flexible open-ended thesaurus.

In certain areas, therefore, the thesaurus which was used proved to be less than a useful tool; further experiments should consider the use of vocabulary control devices of greater flexibility. That the flexible method would not automatically lead to a universe of terms was demonstrated by the fact that only 365 terms were actually employed to index the 297 theses used for this project. However, the decision to use this form of thesaurus was made early in the study, and, with the exception of the difficulties already noted, the thesaurus functioned well.

INDEXING AND CODING

The assignment of descriptor terms to the thesis abstracts was judged to be the most critical stage in the system. Errors and/or imperfections at this time were reflected in lower retrieval efficiency. Successful indexing demanded a disciplined adherence to pre-established procedures combined with a thorough understanding of the subject matter of the document. Editorial consistency was maintained by compliance with the former demand, while accuracy of indexing resulted from the latter. Since this investigation completed the indexing for the entire project, and since the field of educational administration covers a diverse range of topics, particular care

was taken to compensate for the researcher's lack of expertise in certain indexed subjects.

The procedure adopted was to interpret each document from as many points of view as possible, primarily attempting to anticipate the expectations of future users. This increased the number of descriptor terms associated with each abstract, but improved the possibility that one or more of these terms would coincide with those submitted by the searcher.

Despite the attention directed towards the reduction of the deficiencies presumed to exist at this stage in the preparation of the documents, indexing remained the weakest link in the system. These deficiencies contributed significantly to the omission of pertinent documents at the time of retrieval. This finding was consistent with the observations of other researchers such as Saracevic (1968), Borko and Bernick (1964:151-162), and Salton (1965).

The coding procedures were greatly assisted by the forms developed for this purpose. When combined with the list of terms provided by the thesaurus, these coding forms produced a consistent level of indexing which facilitated keypunching operations. Provisions were made on the coding forms to allow for the expansion of the data base at some future time. The source record, which would be most affected by this expansion, was allocated more space than present requirements warranted in order to provide for later changes. The question coding form was found to be easily used and the format employed aided in the formulation of effective search parameters.

Two factors influenced the length of time required to

index and code the bibliographic portion of the abstracts. These factors were (1) the length of the abstract and (2) the degree of familiarity of the indexer with the abstract. The time required to index a given document ranged from ten to twenty minutes, with an average time of approximately twelve minutes. The coding of the abstracts required a greater amount of time, despite the fact that no descriptor terms were involved. The form developed for the coding of the abstract demanded a degree of concentration which was not conducive to rapid completion of the task. The time consumed for this activity averaged twenty minutes per document, although the number which could be processed at this rate on a continuous basis was limited.

RETRIEVAL PROCEDURES

Bibliographic Citations

The accessibility of the bibliographic material relating to theses of educational administration graduates was greatly improved by conversion to a computer system. Information which was previously only available as a product of manual efforts was obtainable in much less time and with a reduction in physical effort. In an attempt to ascertain the efficiency of this conversion, a test involving twenty search questions was conducted.

The questions were formulated from the titles of twenty M.Ed theses in educational administration which had been completed since the Spring Convocation of 1969. The 297 theses stored in the system were thoroughly examined to determine those which corresponded with the request parameters and therefore should be identified in response to the search requests. Comparison of the expected results

with the actual results indicated a recall percentage of just over 70% and a precision of slightly in excess of 85%. These percentages were obtained using formulae developed by Salton (1965:127) for use in evaluating computer-based information retrieval systems. These formulae are presented below.

$$\begin{aligned}\text{Recall (\%)} &= \frac{\text{No. of Relevant Retrieved}}{\text{Total Relevant in Collection}} \times 100 \\ \text{Precision (\%)} &= \frac{\text{No. of Relevant Retrieved}}{\text{Total Number Retrieved}} \times 100\end{aligned}$$

The narrowness of certain of the topics limited the number of theses abstracts which were actually available for recall, and greatly influenced the recall and precision percentages for those topics. The number of "false drops," that is, those documents which were indicated but were not in keeping with the topic, was used as a factor in the calculation of the precision of the system. A complete list of the results obtained for the questions appears in Table 1.

The results of this experiment demonstrated the retrieval capabilities of the system and provided encouragement for the value of such a project as an aid to educational research.

Abstracts Texts

The precision of this retrieval phase was superior to that demonstrated in the recall of stored bibliographic citations, and rarely failed to satisfy requests for abstracts. The high level of proficiency was attributable to the comparatively simple way in which the information was stored, combined with the fact that the

Table 1

Results of Test To Determine Retrieval Capabilities of the System

INFORMATION SOUGHT	Number of relevant retrieved	Number of relevant in collection	% recall	Number of relevant retrieved	Total number retrieved	% precision
1. Group participation in Educational change	2	3	66.66	2	2	100.00
2. Price indices for educational expenditures.	21	22	95.45	21	35	60.00
3. Innovativeness of elementary teachers and their expecta- tions for the principal	7	7	100.00	7	10	70.00
4. Teacher professional orien- tation and satisfaction with authority.	51	56	91.07	51	59	86.44
5. Teacher participation in decision-making	5	6	83.33	5	6	83.33
6. Teacher satisfaction in team teaching situations	5	5	100.00	5	5	100.00
7. Education of mentally retarded children	5	5	100.00	5	13	38.46

Table 1 (continued)

INFORMATION SOUGHT	Number of relevant retrieved	Number of relevant in collection	% recall	Number of relevant retrieved	Total number retrieved	% precision
8. Participation in decisions affecting curriculum and curriculum design.	4	5	80.00	4	6	66.66
9. Role of the department-head in Alberta schools.	2	2	100.00	2	2	100.00
10. Teacher evaluation by principals	5	5	100.00	5	6	83.33
11. The provision of aid for the private schools of Alberta.	3	4	75.00	3	3	100.00
12. Principals' evaluation of the semester system in Alberta schools.	2	2	100.00	2	2	100.00
13. Budget procedures in Alberta school divisions.	9	10	90.00	9	11	81.11
14. Expectations held for the Junior High School principal by different sub-groups.	35	35	100.00	35	45	77.77

Table 1 (continued)

INFORMATION SOUGHT	Number of relevant retrieved	Number of relevant in collection	% recall	Number of relevant retrieved	Total number retrieved	% precision
15. Administrative ratios in Western Canada.	12	13	92.30	12	16	75.00
16. Professional orientations of Newfoundland principals.	2	2	100.00	2	2	100.00
17. Required competencies of provincially appointed Superintendents.	15	16	93.75	15	19	78.94
18. The role of the high school student.	3	3	100.00	3	3	100.00
19. Achievement of grade 9 students.	7	9	77.77	7	7	100.00
20. Values of Canadian adolescents.	4	4	100.00	4	4	100.00
	MEAN RECALL %		92.99	MEAN PRECISION %		77.73

selection of the appropriate documents was dependent upon a single term rather than upon a combination of descriptor terms. The direct access provided by the inverted file facilitated rapid retrieval, but carried with it a penalty of increased error frequency. Such direct access was not required for the file storing the abstracts, thus permitting the use of the highly proficient sequential files.

The interaction between the requestor and the system allowed the user to eliminate irrelevant documents prior to the final retrieval step. In so doing, "false drops" were screened out and the final printing of abstracts contained the desired information uncluttered by unwanted materials. The results of the preliminary phase also permitted an appraisal of the search parameters established for the request. In instances where the documents identified by the computer for retrieval were either inappropriate to the user's need or were not of sufficient quantity, the user had the option of (1) redefining the parameters to make them more generic and (2) initiating a second search. Similarly, if the projected output was indicated to be greater than his requirements, he could make his parameters more specific and thereby reduce the number of documents retrieved. Salton, Keen, and Lesk (1967:349) term this interaction "relevance feedback," and believed that the process would modify "the query vector in the 'direction' of the document set termed relevant, and away from the document set termed nonrelevant."

Unfortunately, this delay feature carried with it penalties for some individuals. Depending upon the accessibility of the computer, the "turn-around time" consumed anywhere from one hour

to a complete day. This limitation decreases the efficiency of the project for some users and indicates a need to investigate the possibility of combining the two search phases to produce a single printout.

EVALUATION OF THE INTEGRATED COMPONENTS

The overall performance of the system provided an adequate service for those seeking educational research of a local nature. A significant accumulation of such data is contained in the theses submitted to the departments of the Faculty of Education, and improved access to that information was a desirable step.

Two major weaknesses detract from the advantages which accompanied the conversion of the system to a computer base. These disadvantages are the problems associated with the indexing procedures and results, and the time lag between the original printout of the bibliographic citations and the final production of the abstracts sought. This project represents but one step towards an information system capable of overcoming the many communication problems associated with our data-rich civilization.

Chapter 6

SUMMARY AND CONCLUSION

The purpose of this study was to develop an information storage and retrieval system which would improve the accessibility and use of the abstracts of theses and dissertations completed in the Faculty of Education during the years 1929 to 1969. A review of the related literature indicated that a computerized system would offer efficient and effective methods for meeting present and future needs. The major consideration for this investigator was what degree of automatic processing should be incorporated into the computer system developed. The resulting project, operating on the I.B.M. 360 model 67 computer at the University of Alberta, evolved from the synthesis of manual and automatic procedures interconnected in such a way as to facilitate the flow of information into and out of the system. Three distinct stages were included in the development of the total system.

The first stage involved the selection and adaptation of a language regulating thesaurus. The thesaurus selected to provide the basic terms for the system was the Information Retrieval Thesaurus of Education Terms which had been developed by Barhydt and Schmidt. Two revisions to the Barhydt and Schmidt list of terms, which numbered 2059 terms, produced a working thesaurus of 1978 descriptor terms. The second revision followed the trial indexing of 100 documents. The changes that were made, both in the form of additions

and deletions, were intended to make the list of terms consistent with the Canadian situation.

A number of computer programs developed by Watts for the Alberta Information Retrieval for Health, Physical Education and Recreation (AIRHPER) system were used to manipulate the storage and retrieval procedures for the bibliographic content of the theses abstracts. A total of five programs used in the AIRHPER system were used following minor modifications to ensure their compatibility with the project. The use of Fortran IV G as the source language for the five programs made provision for possible conversion to on-line operations and eventual use of remote terminals.

The third phase of the study necessitated the development of two additional programs. These programs were directed at the storing of the complete texts of abstracts and the subsequent retrieval of these abstracts. The storage and retrieval of the entire abstract was included to provide information supplementary to the bibliographic output which was the end product of the Watts' system.

The data which formed the information base for the system were obtained from a complete set of theses abstracts stored in the Department of Educational Administration library. These abstracts, of approximately 150 words each, represented the result of an ongoing storage and retrieval program conducted by graduate students of that Department. A total of 297 documents formed the data base for the testing of the project.

The unification of the three stages was accomplished through the careful preparation of the data, to ensure the convenient

passage of information through the system, and through the inter-relationships which was included in the computer programs. The coding forms and techniques which were developed enforced a consistency of indexing and questioning while the use of a common coding system for storage purposes facilitated the retrieval of relevant information.

An evaluating test, using questions formulated from thesis topics, indicated that the system was capable of retrieving desired information with an acceptable degree of consistency. The results of this test demonstrated that the system produced stored information at a level which would be deemed necessary by those using it as a research device.

Provision for interaction between the user and the system proved to be a mixture of advantages and disadvantages. In that the individual seeking the information was afforded the opportunity to influence the final search operation, this innovation possessed advantages. However, this increased communication with the system represented an excessive cost in time for some individuals, in their case the system possessed disadvantages.

RECOMMENDATIONS FOR CHANGE

1. The use of a thesaurus finalized at the end of the indexing process -- an "open-ended" thesaurus--rather than a thesaurus completed on an a priori basis would enhance the retrieval capabilities of the system. This would necessitate the use of a basic document during the indexing procedures to which terms would be added when required. Following the completion of the indexing the

entire list of registered terms, the basic document plus those terms added during indexing, would be stored within the thesaurus file of the system. Retrieval operations would of necessity be regulated by the contents of this updated thesaurus but the added provisions for improved indexing would more than compensate for this minor restriction.

2. The quality of the indexing would be improved were it to be completed by the author of the thesis. This would serve to reduce the incidence of inappropriate use of descriptor terms which results when others attempt to interpret the author's meaning.

3. The system should be integrated with the on-line facilities of the University of Alberta computer center, possibly through the use of remote terminals. This would not only reduce the time delay inherent in the present system but also encourage greater use of the data stored within the files.

4. The data base should be expanded to include research findings from other institutions as well as the findings published in educational journals and periodicals.

5. The original abstract should be prepared in machine readable form. This would serve to eliminate the need for manual coding with a consequent decrease in the time taken to enter the document into the system.

6. The directions contained in Appendix C should be followed in preparing additional information for input into the systems files.

REFERENCES

A. BOOKS

- Abelson, Philip. Cited by Alan Rees and Douglas Scholtz. "Psychology and Information Retrieval," Information Retrieval, Edited by Schechter, G., Washington: Thompson Book Company, 1967.
- Artandi, Susan. An Introduction to Computers in Information Science. Metuchen, New Jersey: The Scarecrow Press, Inc., 1968.
- Balz, Charles F. and Richard H. Stanwood. "Merge: A Current-Awareness and Retrospective Searching System for Technical Documents," Technical Preconditions for Retrieval Center Operations, Edited by Cheydleur, B.F., Washington: Spartan Books Inc., 1965.
- Barhydt, Gordon and Charles Schmidt. Information Retrieval Thesaurus of Education Terms. Cleveland: Case Western Reserve University Press, 1968.
- Becker, Joseph and Robert Hayes. Information Storage and Retrieval: Tools, Elements, Theories. New York: J. Wiley and Sons, 1963.
- Bourne, Charles P. Methods of Information Handling. New York: J. Wiley and Sons, 1963.
- Burnaugh, H.P. "The BOLD (Bibliographic On-Line Display) System," Information Retrieval. Edited by Schechter, G. Washington: Thompson Book Company, 1967.
- Carter and Others. "The Present System: Document Handling Institutions," National Document-Handling Systems for Science and Technology. Edited by Hayes, R.M. and J. Becker. New York: John Wiley and Sons, 1967.
- Cheydleur, Benjamin. "Relation Between Information Science and Digital Processors," Education for Information Science. Edited by Heilprin L.B., B.E. Markuson and F.L. Goodman, Washington: Spartan Books, 1965.
- Doyle, Lauren. "Advanced Information Systems, Equipment and Software," National Document-Handling Systems for Science and Technology. Edited by Hayes, R.M. and J. Becker, New York: John Wiley and Sons, 1967.
- Fairthorne, R.A. Towards Information Retrieval. London: Butterworth and Co., 1961.

- Highcock, S.T. "Natural Language Indexing for Automated Information Systems, "Classification for Information Retrieval. Edited by Bakewell, K.G.B. London: Clive Bingley Ltd., 1968.
- King, Gilbert W. "Automation and the Library of Congress," The Growth of Knowledge. Edited by Kochen, M. New York: John Wiley and Sons, Inc., 1967.
- Licklider, F.C.R. Libraries of the Future. Cambridge: The M.I.T. Press, 1965.
- _____. "Man-Computer Symbiosis," Conversational Computers. Edited by Orr, W.D. New York: John Wiley and Sons, Inc., 1968.
- Rigby Malcolm. "Browsability in Modern Information Retrieval Systems: The Quest for Information," Education for Information Science. Edited by Heilprin, L.B., B.E. Markuson and F.L. Goodman. Washington: Spartan Books, 1965.
- Salton, G., E.M. Keen and M. Lesk. "Design Experiments in Automatic Information Retrieval," The Growth of Knowledge. Edited by Kochen, M. New York: John Wiley and Sons, Inc., 1967.
- Simmons, R.F. "Natural Language Processing and the Time-Shared Computer," Toward a National Information System. Edited by Rubinoff, M. Washington: Spartan Books, 1965.
- Slamecka, Vladimir and Pranas Zunde. "Automatic Subject Indexing from Textual Condensations," The Coming age of Information Technology. Edited by Slamecka, V. Chicago: The Chicago University Press, 1964.
- Somerfield, G.A. "The State of the Art of Computer-Based Information Retrieval Systems," Computer-Based Information Retrieval Systems. Edited by Houghton, B., London: Clive Bingley Ltd., 1968.
- Tate, Fred A. "National Registry System for Chemical Compounds," Toward a National Information System. Edited by Rubinoff, M., Washington: Spartan Books, 1965.
- Vickery, B. C. On Retrieval System Theory. London: Butterworth and Co., 1965.
- _____. Faceted Classification. London: Unwin Brothers Limited, 1968.

B. PERIODICALS

- Borko, H. and P. Bernick. "Automatic Document Classification," Association for Computing Machinery, Journal Vol. 13, (1963) pp. 151-162.
- Drew, and others. "An On-Line Technical Library Reference Retrieval System," American Documentation, 17:1 (January, 1966), pp. 3-7.

Hyslop, Marjorie R. "Sharing Vocabulary Control," Special Libraries LVI (December, 1965), pp. 708-714.

C. REPORTS AND DOCUMENTS

Barnard, George W., and Carl Abbot. Information Storage and Retrieval: A Survey. Technical Documentary Report No. AMRL-TDR-63-8, Wright-Patterson Air Force Base, 1963.

British Standards Institution. Guide to the Universal Decimal Classification. British Standards Institution, London, 1963.

Burchinal, Lee G. How to Use ERIC. United States Office of Education, Government Printing Office, Division of Public Documents, Washington, 1969.

Chemical Abstract Services. Annual Report to the National Science Foundation on Contract NSF C 414-Task 1, June 1965-May 1966. American Chemical Society, Columbus, 1966.

Dolan, F.T. Information Retrieval in Canada, A Preliminary Survey. Technical Information Services Department. Imperial Oil Limited Producing Department, Western Region, IPRC-4-MIR-67. Calgary, August, 1967.

Guidelines for the Development of Information Retrieval Thesauri. Committee on Scientific and Technical Information, U.S. Government Printing Office, Washington, 1967.

Lesk, M.E. and Gerard Salton. Design Criteria for Automatic Information Systems. Scientific Report No. ISR - 11 to the National Science Foundation, Ithaca, Cornell University, 1966.

MARC Project: An Experiment in Automating Library of Congress Catalog Data. Information Systems Office. Library of Congress, Washington, 1967.

Mayer, Steven E. A Model for the Description of Information Retrieval Systems: Preliminary Report 2. Mclean, Virginia, 1965.

Marron, Harvey. Mechanized Scientific and Technical Information Systems. Committee on Scientific and Technical Information, Federal Council for Science and Technology, Washington, April, 1968.

Nehnevajsa, Jiri. "Information Needs of Society: Future Patterns," International Federation for Documentation, Proceedings of the 1965 Congress. London: MacMillan and Co. Ltd., 1966.

Phillipson, Michael. Making Fuller Use of Survey Data. SEAC Project London, 1968.

- Rippon, J.S. "Systematic Dissemination of Information: Organization and Costing," Proceedings of the Second Conference of Information Scientists, Jesus College, Oxford, July 11-13, 1966. The Institute of Information Scientists, London, 1968.
- Salton, Gerard. "The Evaluation of Computer-Based Information Retrieval Systems," International Federation for Documentation, Proceedings of the 1965 Congress. (Vol. 2), Washington, Spartan Books, 1965.
- Saracevic, Tefko. "An Inquiry into Testing of Information Retrieval Systems. Part I Objectives. Methodology, Design, and Controls. Comparative Systems Laboratory-Final Technical Report, Case Western Reserve University, Cleveland, 1968.
- Torman, J. Future Tasks in Education. International Federation for Documentation Congress, Academy of Sciences, Prague, 1965.
- Warheit, I.A. "File Organization for Information Retrieval," Proceedings of the F.I.D. I.F.I.P. Joint Conference, Rome, June 14-17, 1967. North Holland Publishing Company, Washington, 1968.

D. UNPUBLISHED MATERIALS

- Anderson, C.C. "Abstracts of Theses in Education 1949-1958." University of Alberta, 1958 (Mimeographed).
- Balchan, Alan Richard. "A Multi-Dimensional Classification of Theses in Education Completed at the University of Alberta 1929-1967." Unpublished Master's Thesis, University of Alberta, 1968.
- Halpin, Roger F. "An On-Line Information Retrieval System with an Application to Western Canadian History." Unpublished Master's Thesis, University of Alberta, 1967.
- Hazlett, Clarke B. "The Storage and Retrieval of Multiple Choice Items on Computer." Unpublished Master's Thesis, University of Alberta, 1969.
- International Business Machines. "System/360 Information Retrieval and Management System: Application Directory." International Business Machines, Don Mills, 1968 (Mimeographed).
- Knill, W.D., and others. "A Classification of Theses in Education Completed at the University of Alberta, 1929-1966." University of Alberta, 1966 (Mimeographed). Third Edition.
- Smith, H.E. "Abstracts of Theses in Education 1929-1949." University of Alberta, 1949 (Mimeographed).
- Watts, Howard Norman. "A Prototype Information Retrieval System for Health, Physical Education and Recreation." Unpublished Master's Thesis, University of Alberta, 1970.

APPENDIX A

THE THESAURUS

INTRODUCTION

Information retrieval systems generally require some form of control upon the terminology employed. This control is of particular importance in information retrieval systems in the humanities and social sciences where interdisciplinary contributions present special problems. The use of a thesaurus provides one means of controlling the terminology by limiting the number of terms which are accepted for use in the retrieval system itself. The presence of an authoritative list of terms in a thesaurus also facilitates the consistent description of the information contained in documents and questions.

A further advantage results from the physical arrangement of the thesaurus. Alphabetically arranged terms accompanied by a structured display of the relationships between terms serves as an added aid in indexing and searching. The user is able to gain entry to the thesaurus by means of natural language terms and then find directions to those terms which can be used as indexing terms.

The majority of terms used in the thesaurus developed for this present project were selected from the Information Retrieval Thesaurus of Education Terms created by Gordon Barhydt and Charles Schmidt. Their initial selection of terms was made from the Semantic Code Dictionary of Education, a dictionary which contained 10,800 terms. This basic list was reduced to a working list of approximately 5,000 terms through the exclusion of certain classes of terms as well as the removal of redundant typographical variants of the same word.

Additions were made to the working list so that the thesaurus would be representative of all areas of education. This extended

term coverage to the newer aspects of education, particularly the field of educational research.

The final phase in the preparation of the Barhydt and Schmidt thesaurus involved the "negotiation" of each term contained in the working list. These negotiations resulted in the completed thesaurus of 2049 terms. A major consideration in the selection of the terms was their suitability to the field of education in general and educational research in particular.

A limited number of additions and deletions were made to the Barhydt and Schmidt thesaurus to produce the version used with this project. Changes which were made were designed to make the original thesaurus consistent with the requirements and peculiarities of a Canadian environment.

The thesaurus used with this project consists of three divisions: (1) the directions for use, including examples of indexed documents; (2) an alphabetic listing; and (3) a faceted listing.

Directions for use. This section explains the methods by which the thesaurus may be used to index and search documents. Two major divisions are presented, the first identifying the methods used to control the vocabulary and the second explaining the procedure for defining hierarchical and collateral relationships among terms.

Alphabetic Section. The alphabetic section is the core display of the thesaurus. Within this portion are listed the acceptable descriptor terms as well as additional but nonindexable terms which are cross-referenced to their preferred indexable synonym.

Faceted Section. The faceted section presents a system of inter-term relationships. There are seventeen facets - representing

broad groupings of terms - each containing subfacets which include terms with a common basis of application. The terms within these subfacets possess certain generic similarities to the primary facet but have more immediate similarity to the family of terms with which they are grouped. A further division occurs within the subfacet. Terms with a more finite relationship are separated into specific groups. Physical proximity in the faceted display is the basis for identifying membership in this final division.

The Alphabetic and Faceted sections are designed as inter-relating and complementary divisions. This interdependence will be explained in the following sections.

PART I: DIRECTIONS FOR USE

VOCABULARY CONTROL

USE and UF. The USE notation is the means of directing a user from a nonindexable term to an acceptable synonym. The UF (used for) reference - the reciprocal of the USE reference - appears under the main entry of the preferred item to identify all terms which are indexed through that synonym. (See Figure 8)

Parenthetical Qualifiers. Parenthetical qualifiers are used primarily to resolve ambiguity of homographic term entries. For example, the terms in parentheses below, specify the actual use of the indexing term.

CHINESE (LANGUAGE)
CYLINDER (GEOMETRIC SHAPE)

Scope Notes (SN). There are two types of scope notes used in this thesaurus. One is followed by a brief state which serves to define

DIFFERENCE (0452)

SN *

UF DISPARITY

RT 5003

DIFFICULTY

USE LEVEL OF DIFFICULTY

DIGITAL COMPUTERS (0453)

BT COMPUTERS

RT 15015

DescriptorsDIFFERENCE and DIGITAL
COMPUTERS

Term code numbers.....(0452) and (0453)
(Difficulty, as a nonindexable term,
has no descriptor number)

Used For (UF).....Disparity
(The descriptor DIFFERENCE is an
acceptable indexing term for
DISPARITY)

Scope Note.....SN *

(The context in which it is used
provides the meaning for this
descriptor)

Broader Term.....BT COMPUTERS
(More generic than the descriptor,
the descriptor DIGITAL COMPUTERS
will appear as a NT to COMPUTERS)

Related terms.....RT 5003 and RT 15015
(Suggested synonyms are contained
in the faceted display in sub-
facets 5003 and 15015)

FIGURE 8
ALPHABETIC SECTION

ADMISSION	(0036)
SN	ADMITTANCE TO A SCHOOL
UF	ENTRANCE
	MATRICULATION
NT	EARLY ADMISSION
RT	2010
	ACADEMIC STANDARDS
	ADMISSION TEST

Descriptor ADMISSION

Term code number (0036)

Scope Note SN ADMITTANCE TO A SCHOOL

Used For (UF) Entrance, Matriculation
(The descriptor ADMISSION is an
acceptable indexing descriptor
for ENTRANCE and MATRICULATION)

Narrower Term NT Early Admission
(More specific than the descriptor,
the descriptor ADMISSION will
appear as a BT to EARLY ADMISSION)

Related Terms RT 2010
(Facet 2 and subfacet 2010 located
in the faceted section contain
suggested synonym terms)

ACADEMIC STANDARDS..... Additional related
ADMISSION TEST terms.

FIGURE 8 (Continued)

the context or range for and indexed term. The second type, identified by means of an asterisk, is used in cases where the term lacks specificity and is usually dependent upon the context to establish the meaning. *This latter form of scope note carries with it an implicit suggestion that if possible a more specific term should be selected. (See Figure 8)

HIERARCHICAL AND COLLATERAL RELATIONSHIPS

Broader Term/Narrower Term (BT-NT). The relationship which exists between a class and its subclasses, described as a hierarchy, is identified by means of the Broader Term (BT) and Narrower Term (NT) symbols. The Broader Term reference is used to refer from a term representing a member of a class of concepts to the term in the thesaurus representing the entire class. The Narrower Term reference is used to refer from a term symbolizing concepts that are members of a complete class to a single member of that class. Whenever either of these cross references is used, the reciprocal reference is also included. (See Figure 8)

Related Terms (RT). This thesaurus has attempted to overcome the difficulties presented by long lists of related terms, lists which are frequently awkward to scan and expensive in terms of space utilized. Therefore, for any given descriptor a numerical notation is given which directs the user to a specific facet in the faceted section. Within that subfacet are listed the terms which bear relationships to the descriptor term. (See Figure 9)

For certain descriptors there are additional related terms which provide further entry points to the alphabetic array. These

added terms are list with the numerical RT reference since they fall within subfacets other than the subfacet containing the majority of terms related to the descriptor. (See Figure 8)

EXAMPLES OF THESES INDEXED USING TERMS CONTAINED IN THE THESAURUS

The following examples demonstrate the method of indexing documents, using the thesaurus as an authority list, in preparation for introducing the documents into the system. The procedure for formulating the search request, again using the thesaurus, follows the converse of the indexing process.

1. ARNOTT J.E. ADVANTAGES AND DISADVANTAGES OF THE SEMESTER
 SYSTEM AS PERCEIVED BY ALBERTA PRINCIPALS.

M.ED THESIS FALL 1969.

DESCRIPTOR TERMS USED

SEMESTER SYSTEM/PRINCIPAL/ANALYSIS/EDUCATIONAL OUTCOMES/ALBERTA/
EVALUATING/COURSE LOAD/SCHOOL YEAR/DISCONTENT/SATISFACTION/

2. HOLT P.W.R. ADMINISTRATIVE PRACTICES CONCERNING THE EDUCABLE
 MENTALLY RETARDED IN SELECTED CANADIAN PUBLIC
 SCHOOLS.

M.ED THESIS FALL 1962.

DESCRIPTOR TERMS USED

MENTAL RETARDATION/ADMINISTRATING/PUBLIC SCHOOLS/EDUCABILITY/
SPECIAL EDUCATION/TEACHER ATTITUDE/PARENT ATTITUDE/MENTAL HANDICAP/
EDUCATION/

3. UHLMAN H.J. A STUDY OF THE IMPACT OF DEMOGRAPHIC AND ECONOMIC
 CHANGES IN RURAL ALBERTA ON THE FINANCING OF EDUCATION.

PH.D THESIS SPRING 1959.

DESCRIPTOR TERMS USED

DEMOGRAPHIC DATA/ECONOMIC CONDITIONS/EDUCATION/ALBERTA/FINANCE/
RURAL AREA/FINANCIAL AID/

FACET 2 (ACTIVITIES)
 SUB-FACET 2008
 (Disciplining, Dismissing)

CORPORAL PUNISHMENT
 CORRECTION (DISCIPLINE)
 DISCIPLINARY ACTION
 DISCIPLINE
 PUNISHMENT (DISCIPLINE)

DISMISSING

STUDENT DISMISSAL
 STUDENT SUSPENSION
 TEACHER DISMISSAL
 TEACHER SUSPENSION

CENSORING

FACET 2.....Contains all terms which fall into the
 general area of activities.

SUBFACET 2008.....A more specific selection of activities
 which are directly related to disciplining
 and dismissing.

The SUB-FACET is further subdivided into
 groups of terms with a very close rela-
 tionship. Identification of these groups
 is on the basis of physical proximity.

FIGURE 9

FACETED SECTION

ABILITY	(0001)	ACADEMIC DEGREE	(0009)
SN*		SN*	
RT 6001		RT 14002	
Ability Grouping*			
Ability Test*		ACADEMIC ENRICHMENT	(0010)
Aptitude*		SN Increase to amount and	
Handicap		complexity of course	
Individual Differences*		content	
Skill*		BT Enrichment	
		RT 2012	
ABILITY GROUPING	(0002)	Advanced Placement Program	
UF Streaming		Honors Program*	
BT Homogeneous grouping			
RT 2009		ACADEMIC FREEDOM	(0011)
Ability*		RT 12004	
		Censoring*	
ABILITY TEST	(0003)		
BT Intelligence Test		ACADEMIC IMPROVEMENT	
RT 2002		USE Achievement	
Ability*			
ABNORMALITY	(0004)	ACADEMIC PRESSURES	(0012)
SN*		RT 12004	
RT 5003		Course Load*	
Handicap		Homework*	
Mental Illness		ACADEMIC RETENTION	
Sexual Inversion		USE Failure	
ABSENTEEISM		ACADEMIC STANDARDS	(0013)
USE Attendance		RT 3001	
		accreditation*	
ABSTRACTING	(0005)	Admission*	
SN The writing of Abstracts			
RT 2001		ACADEMIC SUCCESS	
Information Service*		USE Achievement	
Writing*			
ABSTRACTION	(0006)	ACCELERATION	(0014)
BT Concept Formation		SN The process of progressing	
RT 2016		through the school grades	
		at a rate faster than that	
ABSTRACTNESS	(0007)	of the average child	
RT 11001		UF Skipping	
		RT 6004	
ACADEMIC APTITUDE	(0008)	Advanced placement	
UF Scholastic Aptitude		program*	
RT 6002		Rate	
Motivation			

ACCENTUATION	(0015)	ACHIEVEMENT	(0024)
SN Speech		UF Academic improvement	
RT 9004		Academic success	
Speaking		Accomplishment	
ACCEPTANCE	(0016)	Attainment	
SN General Attitude of one		Improvement	
person toward another		Performance	
RT 7003		NT Overachievement	
		Underachievement	
ACCIDENT	(0017)	RT 6004	
SN*		Achievement test*	
RT 8001		Course completion*	
Accident prevention*		Learning rate*	
Traffic Safety*		Remedial teaching*	
		Scholastic preparations*	
		Score*	
ACCIDENT INSURANCE	(0018)		
RT 13001		ACHIEVEMENT TEST	(0025)
ACCIDENT PREVENTION	(0019)	UF Educational test	
RT 2007		RT 2002	
Accident*		Achievement*	
School injury*			
ACCOMPLISHMENT		ACHROMATIC COLOR	(0026)
USE Achievement		UF Black and white	
		RT 9003	
ACCOUNTANT	(0020)	ACOUSTICS	(0027)
RT 1008		SN Sound affecting qualities	
		of a room	
ACCOUNTING	(0021)	RT 9004	
RT 17006		ADAPTABILITY	(0028)
ACCREDITATION	(0022)	RT 7003	
SN of educational institutions		Socialization	
RT 2007			
Academic standards*		ADDICTION	(0029)
ACCULTURATION		RT 8001	
USE Cultural assimilation		Drugs*	
		Juvenile delinquency	
		Mental health	
ACCURACY	(0023)	ADDITION	(0030)
UF Correctness		SN Arithmetical calculation	
Precision		RT 17005	
RT 6003		ADEQUACY	(0031)
Clarity		SN Of amount of supplies or	
Consistency*		staff	
Error		UF Insufficiency	
		Sufficiency	
		RT 3002	
		Ability	

ADEQUACY (cont'd)		ADULT (cont'd)	
Achievement		BT Maturity	
Feeling of Inadequacy		RT 8005	
		Adult education*	
ADJECTIVES	(0032)	ADULT EDUCATION	(0040)
RT 16001		SN*	
		RT 3012	
ADJUSTMENT	(0033)	Adult*	
SN*		Middle age	
RT 2021		Young adult	
Social adjustment			
ADMINISTRATING	(0034)	ADVANCED PLACEMENT PROGRAM	(0041)
SN*		RT 10002	
UF Coordinating		Acceleration*	
Managing			
RT 2007		ADVANCEMENT	
Decision making*		USE Promotion	
Teacher administration			
relations		ADVERBS	(0042)
Test administration		RT 16001	
ADMINISTRATIVE PERSONNEL	(0035)		
RT 1001		ADVERTISING	(0043)
		RT 2018	
ADMISSION	(0036)	Attitude	
SN Admittance to a school		Attitude Change	
UF Entrance		Mass Media*	
Matriculation		Susceptibility	
NT Early Admission			
RT 2010		ADVISING	
Academic standard*		USE Counseling	
Admission Test*			
		ADVISOR	
		USE Counselor	
ADMISSION TEST	(0037)		
RT 2002		AESTHETICS	(0044)
Admission*		RT 17007	
ADOLESCENCE	(0038)	AFFECT	(0045)
SN Age twelve to twenty-one		SN*	
UF Teen age		NT Emotion	
NT Early adolescence		Feeling	
Late adolescence		Mood	
Mid adolescence		RT 7001	
RT 8005		Attitude*	
		Emotional development*	
ADOPTION		Mental health*	
USE Legal adoption		Motivation*	
		Personality*	
		Temperament*	
ADULT	(0039)		
SN Age thirty to forty-five			

AFFECTION	(0046)	AIR CONDITIONING	(0056)
SN Feeling of fondness		RT 15020	
RT 7001			
AFFECTIVE PSYCHOSIS	(0047)	ALBERTA	(0057)
BT Psychosis		RT 15029	
NT Manic depressive psychosis		ALERTNESS	(0058)
Psychotic depressive		RT 7007	
reaction		Responsiveness*	
RT 7006			
AFFECTIVITY	(0048)	ALEXIA	(0059)
SN Tendency to react easily		BT Mental handicap	
with feeling or emotion		RT 8001	
RT 7006		Reading ability	
		Word discrimination*	
AGE		ALGEBRA	(0060)
USE Chronological age		BT Mathematics	
		RT 17005	
AGED		ALLOCATION	(0061)
USE Old age		RT 2007	
AGGRESSION	(0049)	ALPHABET	(0062)
BT Antisocial behaviour		RT 16001	
RT 2024			
Hostility		ALTERATION	
		USE Change	
AGRAPHIA	(0050)	AMBIDEXTERITY	(0063)
BT Mental Handicap		BT Handedness	
RT 8001		RT 8003	
Writing			
AGREEMENT	(0051)	AMBIGUITY	(0064)
SN*		UF Equivocality	
RT 5002		RT 11001	
Conflict			
AGRICULTURAL AGENT	(0052)	AMBITION	(0065)
RT 1009		RT 7005	
AGRICULTURAL SCHOOL	(0053)	AMOUNT	(0066)
RT 15028		UF Number	
		Quantity	
AGRICULTURE	(0054)	RT 3001	
RT 17016		Cost	
AID TO DEPENDENT CHILDREN	(0055)	ANALYSIS	(0067)
RT 13002		SN*	
		RT 2001	
AIM		Evaluating*	
USE Goal		Planning*	
		Testing	
		Thinking*	

ANGLE	(0068)	APATHY	(0077)
SN*		UF Indifference	
RT 5006		Lethargy	
		RT 7003	
ANIMALS	(0069)	Boredom	
SN *		Motivation	
RT 15025			
		APPARATUS	
ANIMATED FILMS	(0070)	USE Equipment	
RT 15004			
		APPERCEPTION	(0078)
ANNUAL	(0071)	RT 2016	
RT 4002		Awareness	
		APPLICATION	
ANSWER		USE Transfer	
USE Response			
ANSWER KEYS	(0072)	APPRECIATION	(0079)
RT 15026		RT 7003	
		Evaluating*	
ANSWER SHEETS	(0073)		
RT 15026		APPREHENSION	
		USE Awareness	
ANTHROPOLOGY	(0074)		
RT 17014		APPREHENSIVENESS	
RT 13002		USE Anxiety	
Poverty*			
		APPRENTICE	(0080)
ANTICIPATION METHOD		SN Skilled trade	
USE Prompting		RT 1002	
		On the job training*	
ANTISOCIAL BEHAVIOR	(0075)		
NT Aggression		APPROVAL	(0081)
Crime		UF Praise	
Cruelty		RT 7003	
Disruptive behavior		Reward	
Juvenile delinquency			
Rioting		APTITUDE	(0082)
Vandalism		SN*	
RT 2042		RT 6002	
Hostility		Ability*	
		Aptitude test*	
ANXIETY	(0076)	Individual differences*	
UF Apprehensiveness		Skill*	
RT 7001			
Mental health		APTITUDE TEST	(0083)
		BT Intelligence test	
		RT 2002	
		Aptitude*	

ARCHITECTURE RT 17009	(0084)	ASSIGNMENT SN * RT 2014	(0094)
ARGUMENT USE Conflict		ASSIMILATION SN * RT 2023	(0095)
ARITHMETIC SN* RT 17005	(0085)	ASSISTANT PRINCIPAL RT 1004	(0096)
ARRANGEMENT SN * RT 5005 Designing Logical Organization Sequence*	(0086)	ASSISTANT PROFESSOR RT 1003	(0097)
ART RT 17009	(0087)	ASSOCIATE PROFESSOR RT 1003	(0098)
ARTICULATION SN Production of speech sounds RT 2018 Pronunciation	(0088)	ASSOCIATIVE LEARNING RT 2015	(0099)
ARTIFICIAL LIGHT BT Illumination RT 9003	(0089)	ASSOCIATIVE STRENGTH RT 3001 Associative learning*	(0100)
ARTISTIC APTITUDE RT 6002 Creativity*	(0090)	ASTIGMATISM BT Visual handicap RT 8001	(0101)
ASCENDANCE SN Tendency to seek control over others RT 7001 Conflict Dominance Laterality Sibling Rivalry*	(0091)	ASTRONOMY RT 17015	(0102)
ASPIRATION RT 7005	(0092)	ATHETOSIS BT Mental handicap RT 8001	(0103)
ASSEMBLING SN Manual task sense RT 2020 Motor skills	(0093)	ATHLETIC COACH RT 1003 Sports*	(0104)
		ATHLETIC FIELD RT 15029	(0105)
		ATHLETIC SCHOLARSHIPS BT Scholarships RT 13002	(0106)
		ATLAS RT 15026 Maps*	(0107)

ATTAINMENT		AUDIBILITY	(0115)
USE Achievement		BT Perceptibility	
		RT 9002	
		Loudness	
ATTENDANCE	(0108)		
SN Excluding truancy		AUDIENCE	(0116)
UF Absenteeism		RT 1001	
Now attendance			
RT 2023		AUDING	(0117)
		SN Auditory parallel of reading	
ATTENTION	(0109)	UF Listening	
UF Concentration		RT 2019	
RT 7007		Auditory comprehension*	
Distractibility*		Auditory perception	
		Aural oral method*	
ATTITUDE	(0110)	Hearing	
SN *		Hearing Disorder	
RT 7003		Listening ability*	
Affect*			
Attitude change*		AUDIO	
Attitude scale*		USE Sound	
Cooperation*			
Ideology*		AUDIOMETER	(0118)
Value judgements*		SN Device for testing hearing	
		RT 15012	
ATTITUDE CHANGE	(0111)		
RT 2023		AUDIOVISUAL AID	(0119)
Attitude*		SN *	
		RT 15001	
ATTITUDE FORMATION	(0112)	Cameras	
RT 2015		Charts	
Attitude		Films	
		Projector	
ATTITUDE SCALE	(0113)	Radio	
BT Psychological test		Realia	
RT 2002		Recordings (sound)	
Attitude*		Television	
		Visuals	
ATTRITION RATE	(0114)		
UF Completion rate		AUDIOVISUAL TEST	(0120)
Dropout rate		SN Testing by means of a device	
RT 3001		such as film or tape recorder	
Drop out*		RT 2002	
Resigning*			
Withdrawal*		AUDIT COURSES	(0121)
		RT 10002	

AUDITORIUM RT 15027	(0122)	AUTOMATED CLASSROOM RT 15027 Automation* Computer assisted instruction*	(0131)
AUDITORY ACUITY USE Hearing			
AUDITORY COMPREHENSION RT 2016 Auding* Hearing* Hearing disorder Listening ability*	(0123)	AUTOMATION BT Technological change RT 2021 Automated classroom* Data processing* Retraining* Systems design*	(0132)
AUDITORY DISCRIMINATION RT 2016 Hearing Hearing disorder	(0124)	AUTOMOBILE UF Car RT 15018	(0133)
AUDITORY PERCEPTION RT 2016 Hearing* Hearing disorder Sound	(0125)	AUTONOMY UF Independence RT 5001 Local control Self reliance	(0134)
AURAL ORAL METHOD SN Language teaching method RT 2012 Auding* Foreign Languages* Language Laboratory*	(0126)	AUTOTUTOR USE Teaching machine	
AUTHORITARIANISM UF Dogmatism RT 7003 Group Atmosphere*	(0127)	AVAILABILITY UF Shortage RT 3002	(0135)
AUTHORITY RT 12004	(0128)	AVERAGE INCOME RT 12001	(0136)
AUTHORIZING SN * RT 2007	(0129)	AVERAGE INTELLIGENCE RT 6002	(0137)
AUTISM RT 7002 Mental health	(0130)	AVERSION UF Dislike RT 7001	(0138)
AUTOINSTRUCTION USE Programmed instruction		AWARDS SN Academic RT 6004 Fellowship	(0139)

AWARENESS	(0140)	BASKETBALL	(0149)
UF Apprehension		BT Sports	
Consciousness		RT 17001	
RT 7007			
Perception*		BEHAVIOR	(0150)
		SN *	
BABY		RT 2017	
USE Infancy			
BACHELORS DEGREE	(0141)	BELIEF	(0151)
RT 14002		RT 7006	
		Ideology*	
BACKGROUND	(0142)	Political affiliations	
SN *		Religious affiliation*	
RT 7007		Values	
Figure ground relations		BIAS	
graduate		USE Prejudice	
Prior knowledge			
Socioeconomic back-		BIBLE SCHOOL	(0152)
ground		RT 15028	
BAKING	(0143)	BIBLIOGRAPHY	(0153)
RT 17018		RT 15026	
BALANCE	(0144)	BIENNIAL	(0154)
UF Equilibrium		RT 4002	
imbalance			
RT 5002		BIOLOGIST	(0155)
		RT 1007	
BAND (MUSIC)	(0145)	BIOLOGY	(0156)
RT 17011		RT 17015	
Musical instruments			
BAR GRAPHS	(0146)	BIRACIAL	(0157)
RT 15003		RT 8004	
BASAL READERS	(0147)	BIRTH	(0158)
UF Basic readers		RT 8001	
RT 15026		Demographic data*	
BASEBALL	(0148)	BIWEEKLY	(0159)
BT Sports		RT 4002	
RT 17001			
BASIC READERS		BLACK AND WHITE	
USE Basal readers		USE Achromatic color	
		BLACKBOARD	
		USE Chalkboard	

BLINDNESS	(0160)	BOTANY	(0173)
BT Visual handicap		RT 17015	
NT Color blindness			
Functional blindness		BRAILLE	(0174)
Night blindness		RT 16001	
RT 8001			
BLOCK TIME	(0161)	BRAIN INJURY	(0175)
RT 4002		SN Implying mental handicap	
		BT Mental handicap	
		RT 8001	
BLOCKING	(0162)	BRANCHING PROGRAM	(0176)
SN Stoppage in stuttering		UF Crowder program	
RT 8001		Intrinsic program	
Emotional blocking		Variable sequence program	
BLUE COLLAR WORKER	(0163)	RT 10001	
RT 1009		Programmed books*	
Socioeconomic level*		Programmed instruction*	
		Programming*	
BLUEPRINTS	(0164)	Teaching machine*	
RT 15003			
BOARD OF EDUCATION	(0165)	BRASS INSTRUMENTS	(0177)
UF School Board		BT Musical instruments	
RT 1004		RT 15024	
BOARD OF TRUSTEES	(0166)	BREATH CONTROL	(0178)
RT 1004		RT 2020	
BONDS	(0167)	BRIGHTNESS	(0179)
SN Finance		SN Visual sense dimension	
RT 13001		RT 9003	
BOOK REPORTS	(0168)	BRITISH COLUMBIA	(0180)
RT 15026		RT 15029	
BOOKKEEPER	(0169)	BROADCAST PROGRAMMING	(0181)
RT 1008		SN Television and radio	
		programming	
BOOKKEEPING	(0170)	RT 2001	
RT 17003		Radio	
		Television	
BOOKS	(0171)	BROCHURES	(0182)
SN *		RT 15026	
RT 15026			
BOREDOM	(0172)	BROKEN HOME	(0183)
RT 7001		RT 12003	
Motivation		Divorced*	
		Separated*	

BROTHER	(0184)	CA	
RT 12002		USE Chronological age	
BUDGET	(0185)	CAFETERIA	(0196)
RT 13001		UF Lunchroom	
		RT 17005	
BUILDING IMPROVEMENT	(0186)	CALCULUS	(0197)
UF Remodeling		BT Mathematics	
RT 2021		RT 17005	
Building standards			
Maintenance*			
BUILDING INSPECTION	(0187)	CAMERAS	(0198)
RT 2007		SN *	
Building standards*		RT 15005	
Fire prevention*		CAMPUS	(0199)
Safety		RT 15029	
BUILDING STANDARDS	(0188)	CANADIAN GOVERNMENT	(0200)
RT 3001		RT 15029	
Building improvements*		Federal Level*	
Building inspection*		CANADIAN HISTORY	(0201)
Buildings*		BT History	
BUILDINGS	(0189)	RT 17014	
SN *		CANADIAN LITERATURE	(0202)
RT 15027		BT Literature courses	
Building standards*		RT 17012	
BULLETIN BOARD	(0190)	CAPTION	(0203)
RT 15008		RT 16001	
BULLETINS	(0191)	CAR	
RT 15026		USE Automobile	
BUREAUCRACY	(0192)	CARDS	(0204)
RT 7004		SN *	
BUS TRANSPORTATION	(0193)	RT 15003	
RT 2007		CARE	(0205)
School bus		SN Any general medical or	
BUSINESS ADMINISTRATION	(0194)	social assistance	
RT 17006		RT 2011	
BUSINESS LAW	(0195)	Financial aid	
RT 17006		Maintenance	
BUYING		CAREER	(0206)
USE Purchasing		RT 12001	

CAREFULNESS	(0207)	CAUCASIAN	(0219)
UF Cautiousness		UF White race	
RT 7003		RT 8004	
Accuracy			
CARICATURES	(0208)	CAUSES	(0220)
RT 15002		SN Cause-effect sense	
		RT 5001	
CARPENTER	(0209)	CAUTIOUSNESS	
RT 1009		USE Carefulness	
CARPETS	(0210)	CENSORING	(0221)
RT 15002		RT 2008	
		Academic freedom*	
CARRELS	(0211)	CENTRAL INHIBITION	(0222)
UF Study carrels		BT Neural inhibition	
RT 15020		RT 8003	
CARTOONS	(0212)	CENTRALIZING	(0223)
RT 15002		RT 2007	
Animated films		Administrating	
CASE HISTORY	(0213)	CEREBRAL PALSY	(0224)
RT 15026		BT Mental handicap	
CASE LOAD	(0214)	RT 8001	
SN Of a psychologist or		CERTIFICATES	(0225)
social worker		SN *	
RT 3001		RT 15026	
Counseling			
Social work			
CASE WORKER		CERTIFICATION	
USE Social worker		USE Teacher certification	
CASON WORD SERIES	(0215)	CHALK	(0226)
RT 15026		RT 15023	
CATALOGS	(0216)	CHALKBOARD	(0227)
RT 15026		UF Blackboard	
		RT 15008	
CATHOLIC	(0217)	CHALLENGE	(0228)
RT 12005		RT 7005	
		Level of difficulty	
CATS	(0218)	CHANGE	(0229)
RT 15020		SN *	
		UF Alteration	
		Modification	
		RT 2021	
		Variability*	
		Innovation	

CHAPTER	(0230)	CHRONOLOGICAL AGE	(0244)
RT 16001		SN *	
CHARACTERISTICS	(0231)	UF Age	
RT 7002		CA	
CHARCOAL	(0232)	RT 8005	
RT 15023		Educational level*	
		Institutional age	
CHARTS	(0233)	CHURCH SCHOOL	(0245)
SN *		UF Denominational school	
RT 15003		Parish school	
		Parochial school	
CHEATING		BT Private school	
USE Honesty		RT 15028	
CHECK LISTS	(0234)	CIRCLE	(0246)
RT 15026		RT 5006	
CHEMIST	(0235)	CITIZENS COMMITTEE	(0247)
RT 1007		RT 1001	
CHEMISTRY	(0236)	CITIZENSHIP	(0248)
RT 17015		RT 12001	
CHILD REARING	(0237)	CITY	(0249)
RT 2011		RT 15029	
		City size	
CHILDHOOD	(0238)	CITY SIZE	(0250)
SN Age one to twelve		RT 3001	
NT Early childhood			
Late childhood		CIVICS	(0251)
Mid childhood		RT 17014	
RT 8005			
CHINESE (LANGUAGE)	(0239)	CIVIL DEFENSE	(0252)
RT 17013		RT 2007	
CHOIR	(0240)	CIVIL DISOBEDIENCE	(0253)
RT 17011		BT Resistive behavior	
		RT 2024	
CHRISTIAN	(0241)	Cooperation	
SN *		Docility	
RT 12005		Hostility	
CHROMATIC COLOR	(0242)	CIVIL RIGHTS	(0254)
UF Technicolor		RT 12004	
RT 9003			
CHRONIC ILLNESS	(0243)	CIVIL SERVICE	(0255)
RT 8001		RT 1001	

CIVILIAN	(0256)	CLASSROOM	(0265)
RT 1010		RT 15027	
CLARITY	(0257)	CLASSROOM COMMUNICATOR	(0266)
UF Distinctness		SN Device	
RT 11001		RT 15014	
Logical organization		CLASSROOM ENVIRONMENT	(0267)
Perceptibility*		RT 12003	
CLASS PERIOD		Illumination*	
USE Class session		Seating arrangement	
CLASS PREPARATION	(0258)	Teacher student ratio	
SN Preparation of material		CLASSROOM OBSERVATION	(0268)
by a teacher for class-		SN Observation of an	
room presentation		experienced teacher by	
RT 2014		student teachers	
Lesson plan*		RT 2005	
Study habits		Student teaching*	
Teaching load*		CLASSROOM PARTICIPATION	
CLASS RANK	(0259)	USE Classroom-student	
RT 3001		participation	
Achievement		CLASSROOM SPACE	(0269)
Grade point average		RT 3001	
CLASS SESSION	(0260)	CLASSWORK	(0270)
UF Class period		SN Of students	
RT 4002		RT 2014	
CLASS SIZE	(0261)	Course load*	
RT 3001		CLEFT PALATE	(0271)
CLASS VISITATION		BT Speech disorder	
USE Supervisory observation		RT 8001	
CLASSICAL CONDITIONING	(0262)	CLERGYMAN	(0272)
RT 2013		NT Minister	
CLASSICS	(0263)	Priest	
RT 17013		Rabbi	
CLASSIFICATION	(0264)	RT 1005	
SN *		CLERICAL WORKER	(0273)
RT 2001		RT 1008	
Conceptualization*		CLERK	(0274)
Taxonomy		RT 1008	

CLINIC	(0275)	COERCION	(0284)
SN *		UF Force	
RT 15028		RT 12004	
CLINICIAN	(0276)	Authoritarianism	
BT Physician		Disciplining	
RT 1006		Violence*	
CLIQUE	(0277)	COGNITION	(0285)
RT 1001		SN *	
CLOSED CIRCUIT TELEVISION	(0278)	UF Cognitive processes	
UF CCTV		RT 2016	
RT 15007		Concept formation	
CLOSENESS		Evaluating	
USE Proximity		Learning	
		Mental development*	
		Perception	
		Reasoning	
CLOTHES	(0279)	COGNITIVE PROCESSES	
RT 15022		USE Cognition	
CLUBS	(0280)	COHERENCE	
SN Social organizations		USE Intelligibility	
RT 1001			
Social interaction		COLLATOR	(0286)
Extracurricular		SN Device	
activities*		RT 15016	
CLUING		COLLEGE	(0287)
USE Prompting		UF University	
CODE	(0281)	BT Higher education	
RT 16001		NT Two year	
Coding*		undergraduate level	
		RT 14001	
CODING	(0282)	COLLEGE GRADUATE	(0288)
SN Communication theory		SN Use only if a variable in	
NT Decoding		the population	
Encoding		RT 14003	
RT 2001			
Code*		COLOR	(0289)
Communication theory*		SN *	
Message*		RT 9003	
COEDUCATIONAL CURRICULUM	(0283)	Color blindness*	
RT 10002		Gattegno material	
		Perception	
		Visuals	

COLOR BLINDNESS	(0290)	COMMUNICATION THEORY	(0298)
BT Blindness		RT 10001	
RT 8001		Coding*	
Color*		Communicating*	
		Message*	
COLOR SATURATION	(0291)	COMMUNISM	(0299)
RT 9003		BT Totalitarianism	
COMBINATION	(0292)	RT 7004	
RT 5001		COMMUNITY	(0300)
COMIC BOOKS		SN *	
USE Comic strips		RT 15029	
COMIC STRIPS	(0293)	COMMUNITY COLLEGE	(0301)
UF Comic books		BT Two year college	
RT 15002		RT 14001	
COMMENTARY		COMPARABILITY	(0302)
USE Narration		RT 5003	
		Comparing*	
COMMERCIAL RADIO	(0294)	COMPARING	(0303)
BT Radio		RT 2004	
RT 15014		Comparability*	
COMMERCIAL TELEVISION	(0295)	Paired comparison test*	
RT 15007		COMPETENCE	
COMMONALITY	(0296)	USE Skill	
SN Possession with another of a		COMPETENCE MOTIVATION	(0304)
common attribute		SN The motivation of	
RT 5003		gaining mastery in	
Participation		some task	
Syntality		UF Effectance	
COMMUNICATING	(0297)	BT Intrinsic motivation	
SN *		RT 7005	
RT 2018		COMPETITION	(0305)
Communication theory*		UF Rivalry	
Mass media		RT 2023	
Message*		Challenge	
Reading		Emulation	
Social interaction		COMPLETION	(0306)
Speaking		SN *	
Writing		RT 2010	
		Attrition rate	
		Completion item	
		Completion time	

COMPLETION ITEM	(0307)	COMPUTER ASSISTED INSTRUCTION(0313)
RT 11003		RT 2012
		Automated classroom*
COMPLETION RATE		Computer programming*
USE Attrition rate		Computers*
COMPLETION TIME	(0308)	COMPUTER PROGRAMMING (0314)
SN Total time spent to		RT 2001
complete a task or		Computer assisted instruc-
learning program		tion*
RT 4001		Computers
Course completion*		
Task completion*		COMPUTERS (0315)
		NT
COMPLEXITY		Digital computers
USE Level of complexity		RT 15015
		Computer assisted instruc-
COMPLIANCE	(0309)	tion*
UF Obedience		Computer programming*
RT 2023		
Obligation		CONCENTRATION
Submissiveness*		USE Attention
COMPOSITIONS	(0310)	CONCEPT (0316)
UF Themes		SN *
RT 15026		UF Idea
Writing*		RT 10001
Written language develop-		Concept formation*
ment*		
COMPREHENSION	(0311)	CONCEPT FORMATION (0317)
SN *		UF Conception
UF Understanding		NT Abstraction
RT 2016		RT 2016
		Abstractness
COMPREHENSIVENESS		Concept*
USE Scope		Learning*
COMPULSORY EDUCATION	(0312)	CONCEPTION
UF Compulsory school		USE Concept formation
attendance		
RT 2023		CONCEPTUALIZATION (0318)
		SN Ordering of data by
COMPULSORY SCHOOL ATTENDANCE		means of concepts
USE Compulsory education		RT 2016
		Classification*
		Sorting test*
		CONCISENESS (0319)
		UF Succinctness
		RT 3002

CONCRETENESS	(0320)	CONFORMITY	(0326)
RT 11001		RT 7006	
		Compliance	
CONDITION	(0321)	CONFUSION	(0327)
SN *		UF Disorientation	
RT 3001		RT 7007	
Physical fitness			
Working conditions			
CONDITIONING	(0322)	CONGENITAL	(0328)
SN *		RT 8001	
RT 2013		CONGRUENCY	(0329)
Learning*		SN Of shapes of figures	
Prompting*		RT 5002	
Teaching*			
CONDITIONING EXERCISE	(0323)	CONJUNCTIVES	(0330)
BT Physical exercise		RT 16001	
RT 2020		CONNOTATION	(0331)
Physical fitness		RT 11001	
CONDUCTION	(0324)	CONSCIENTIOUSNESS	(0332)
UF Neural transmission		RT 7003	
RT 8003			
CONFERENCE (INTERPERSONAL)		CONSCIOUSNESS	
USE Interpersonal conference		USE Awareness	
CONFERENCE (Professional meeting)		CONSERVATION	(0333)
USE Professional meeting		SN Natural resources	
		RT 17016	
CONFIDENCE		CONSERVATISM	(0334)
USE Self assurance		RT 7004	
CONFIGURATION		CONSISTENCY	(0335)
USE Pattern		RT 5002	
		Accuracy*	
CONFIRMATION		CONSONANCE	(0336)
USE Reinforcement		SN Sound dimension	
CONFLICT	(0325)	RT 9004	
UF Argument		CONSONANTS	(0337)
Controversy		RT 16001	
Disagreement			
Social conflict		CONSTRUCT	(0338)
RT 2024		SN Abstract model of a	
Discontent*		system	
Prejudice		RT 10001	
Social differences*			
Social pressures*			

CONSTRUCTED RESPONSE (0339)	CONTRAST (0349)
SN Written response	RT 5003
BT Verbal response	
RT 2017	CONTRIBUTIONS
Essay item*	USE Gifts
Programmed instruction	
Write in machine*	CONTROL PANELS (0350)
	RT 15016
CONSTRUCTION PAPER (0340)	CONTROLLED PACING
RT 15022	USE EXTERNAL PACING
CONSTRUCTIONAL (SCHOOL)	
USE School construction	CONTROLLED READER (0351)
	SN Device for controlling
CONSULTANT (0341)	and improving reading
RT 1005	rate
	UF Reading rate accelerator
CONSULTATION (0342)	Reading rate controller
SN Utilizing the services	RT 15006
of a paid consultant	
RT 2011	CONTROLLING (0352)
Systems analysis	SN *
	UF Regulating
CONSUMER (0343)	RT 2007
RT 1011	Motor control
	Rules*
CONTACT LENSES (0344)	Self control
RT 15021	
	CONTROVERSY
CONTENT (0345)	USE Conflict
RT 11002	
Content analysis*	CONVALESCENCE (0353)
	UF Recovery
CONTENT ANALYSIS (0346)	RT 2021
RT 2001	Homebound*
Content*	Rehabilitation*
Level of complexity	
Level of difficulty	CONVERTIBLE CLASSROOM (0354)
	RT 15027
CONTINUITY (0347)	
RT 4001	COOP WORK EXPERIENCE
Stability	USE Work study program
CONTRACT (0348)	COOPERATION (0355)
SN *	RT 2023
RT 13001	Attitude*
	Interpersonal relations
CONTRACTION (MUSCULAR)	Resistive behavior*
USE Muscular contraction	
	COOPERATIVE EDUCATION
	USE Work study program

COORDINATING		COST	(0364)
USE Administrating		UF Expenditures	
		Expense	
COORDINATION (MUSCULAR)		Price	
USE Muscular coordination		RT 13001	
		Cost analysis*	
COPYING MACHINES	(0356)	Efficiency*	
SN *			
RT 15005			
CORE CURRICULUM	(0357)	COST ANALYSIS	(0365)
RT 10002		RT 2001	
		Cost*	
CORPORAL PUNISHMENT	(0358)	COUNSELING	(0366)
BT Disciplining		UF Advising	
RT 2008		Guidance	
		NT Group counseling	
CORPORATION	(0359)	RT 2011	
RT 1001		Counselor*	
		Interpersonal conference	
CORRECTION	(0360)	Interviewing*	
SN Excluding disciplinary		Playback*	
sense		School psychologist*	
RT 2021			
Eye examination		COUNSELOR	(0367)
Grading (school mark)		UF Advisor	
Speech therapy		Guidance counselor	
		RT 1005	
CORRECTION (DISCIPLINE)		Counseling	
USE Disciplining		School psychologist*	
CORRECTNESS		COUNTY LEVEL	(0368)
USE Accuracy		RT 15029	
CORRELATION	(0361)	COURSE COMPLETION	(0369)
SN *		RT 2010	
RT 5001		Achievement*	
		Attrition rate	
		Completion time*	
CORRESPONDENCE COURSES	(0362)		
UF Correspondence study		COURSE LOAD	(0370)
RT 10002		SN Number of courses a	
Individualized instruction*		student takes at one time	
		UF Study load	
CORRESPONDENCE STUDY		RT 3001	
USE Correspondence courses		Academic pressures*	
		Classwork*	
CORTICAL INHIBITION	(0363)	Full time*	
BT Neural inhibition		Homework*	
RT 8003			

COURSES	(0371)	CRITICAL THINKING	(0382)
SN *		RT 2016	
RT 10002			
COURTESY	(0372)	CRITICIZING	(0383)
RT 7003		SN *	
		RT 2004	
COURT (LEGAL)	(0373)	Critical thinking	
SN *		Disapproval	
RT 15028		Supervisory observation	
COVERAGE		CROSS CULTURE TEST	
USE Scope		USE Culture free test	
CRAYONS	(0374)	CROSS SECTION MODEL	
RT 15023		USE Cutaway model	
CREATIVE THINKING	(0375)	CROWDER PROGRAM	
RT 2016		USE Branching program	
Creativity*			
CREATIVE WRITING	(0376)	CRUELTY	(0384)
BT Writing		BT Antisocial behavior	
RT 2019		RT 2024	
Creativity*		Hostility	
CREATIVITY	(0377)	CUBE	(0385)
UF Imagination		RT 5006	
RT 6001			
Artistic aptitude*		CUEING	
Creative thinking*		USE Prompting	
Creative writing*			
Intuition*		CUISENAIRE MATERIAL	(0386)
		SN Arithmetic aids	
		RT 15015	
CREDIBILITY	(0378)	CULTURAL ASSIMILATIONS	(0387)
RT 7006		UF Acculturation	
		Americanization	
CREDULITY	(0379)	RT 2023	
RT 7006		Culture	
CRIME	(0380)	Ethnic groups	
BT Antisocial behavior		Immigrant*	
RT 2024		Race	
Hostility			
Law enforcement*		CULTURAL DEPRIVATION	(0388)
		RT 12001	
		Cultural enrichment*	
CRITIC TEACHER	(0381)	CULTURAL ENRICHMENT	(0389)
RT 1003		BT Enrichment	
Student teaching*		RT 2012	
Teacher evaluation*		Cultural deprivation	

CULTURAL VALUES	(0390)	CUTAWAY MODEL	(0398)
RT 12001		UF Cross section model	
Ethnic group*		RT 15010	
Minority group*			
Social change*		CYBERNETICS	(0399)
		RT 17008	
CULTURE	(0391)		
SN *		CYLINDER (GEOMETRIC SHAPE)	(0400)
RT 12001		RT 5006	
CULTURE FREE TEST	(0392)	DAILY	(0401)
UF Cross culture test		RT 4002	
BT Non verbal test			
RT 2002		DANCE	(0402)
		RT 17001	
CURIOSITY	(0393)	DARKNESS	
UF Curiosity arousal		USE Lightness	
RT 7005			
Interest			
CURIOSITY AROUSAL		DATA	(0403)
USE Curiosity		SN *	
		RT 11002	
CURRICULUM	(0394)	DATA PROCESSING	(0404)
SN *		RT 17003	
RT 10002		Automation*	
Curriculum design*			
CURRICULUM DESIGN	(0395)	DATING	(0405)
UF Curriculum development		SN Boy-girl sense only	
RT 2001		RT 2023	
Curriculum*			
CURRICULUM DEVELOPMENT		DAUGHTER	(0406)
USE Curriculum Design		RT 12002	
CUSTOMS	(0396)	DAY CARE CENTER	(0407)
SN Sociological sense		RT 15028	
RT 12001		DAY CLASSES	(0408)
Habit*		RT 4002	
CUTANEOUS SENSE	(0397)	DAYDREAMING	(0409)
UF Derman sense		RT 7002	
NT Pressure sense		DEAFNESS	(0410)
Temperature sense		BT Hearing disorder	
RT 9001		RT 8001	
Tactual perception*		DEAN	(0411)
Threshold		RT 1004	

DEATH	(0412)	DEGREE	(0420)
RT 8001		SN *	
Demographic data*		RT 3001	
Widowed*		Academic degree	
DECENTRALIZING	(0413)	DELAY	(0421)
RT 2007		SN *	
Administrating		RT 4001	
DECEPTION		DELIQUENCY	
USE Honesty		USE Juvenile delinquency	
DECISION MAKING	(0414)	DEMOCRACY	(0422)
RT 2016		RT 7004	
Administrating*			
Group planning*		DEMOGRAPHIC DATA	(0423)
DECODING	(0415)	SN *	
SN Communication theory		RT 12001	
BT Coding		Birth*	
RT 2001		Death*	
Code		Geographical mobility*	
Communication theory		Life expectancy*	
Message		Population size*	
DECREASE	(0416)	DEMONSTRATION METHOD	(0424)
UF Diminishing		SN Teaching method	
Reduction		RT 2012	
Shortening		DENOMINATIONAL SCHOOL	
RT 2021		USE Church school	
DEDUCTION	(0417)	DENOTATION	(0425)
SN Logical process		RT 11001	
RT 2016			
Teaching method*		DENTAL CLINIC	(0426)
DEFENSE		RT 15028	
USE Ego defense		DENTAL EXAMINATION	(0427)
DEFENSIVENESS	(0418)	BT Physical examination	
RT 7002		RT 2003	
DEFICIENCY	(0419)	DENTAL HYGIENIST	(0428)
SN *		RT 1006	
RT 3002		DENTAL SCHOOL	(0429)
Ability		RT 15028	
Handicap		DENTIST	(0430)
Malnutrition		RT 1006	
Qualifications			

DENTISTRY	(0431)	DESIGNING	(0439)
RT 17017		SN *	
Dental hygienist		RT 2001	
DEPARTMENT CHAIRMAN	(0432)	Design*	
UF Department head		Planning*	
RT 1004		School construction	
DEPARTMENT HEAD		DESIRE	(0440)
USE Department chairman		RT 7005	
DEPARTMENT OF EDUCATION	(0433)	Drive (physiological)	
RT 1004		Sex desire	
DEPARTMENTALIZING	(0434)	DESKS	(0441)
RT 2007		RT 15020	
Administrating		DETECTABILITY	
DEPENDABILITY		USE Perceptibility	
USE Reliability		DETENTION HOME	(0442)
DEPENDENT VARIABLE	(0435)	RT 15028	
RT 5001		DEVELOPMENT	(0443)
DEPRECIATION	(0436)	SN *	
SN Of financial value		RT 5002	
RT 2021		Error	
DEPRESSION (ECONOMIC)		Sexual inversion	
USE Economic conditions		DEVICES	
DEPRESSION (MENTAL)		USE Equipment	
USE Mental depression		DEWEY CLASSIFICATION	(0444)
DEPRIVATION	(0437)	BT Library classification	
SN *		RT 2001	
RT 12001		DEXTERITY	
DERMAL SENSE		USE Manual dexterity	
USE Cutaneous sense		DIAGNOSTIC TEST	(0445)
DESEGREGATION		RT 2002	
USE Racial integration		Diagnosis*	
DESIGN	(0438)	DIAGRAMS	(0446)
SN *		RT 15003	
RT 5005		DIALECT	(0447)
Designing*		RT 16001	
Models		DICTAPHONE	
Research design		USE Dictating machines	
Style			

DICTATING MACHINES	(0448)	DISC RECORDINGS	(0457)
UF Dictaphone		UF Phonograph records	
RT 15014		BT Recordings (sound)	
		RT 15014	
DICTION	(0449)	DISCIPLINARY ACTION	
RT 16001		USE Disciplining	
Pronunciation			
DICTIONARY	(0450)	DISCIPLINE	
RT 15026		USE Disciplining	
DIETICIAN	(0451)	DISCIPLINING	(0458)
RT 1006		UF Correction (discipline)	
		Disciplinary action	
DIFFERENCE	(0452)	Discipline	
SN *		Punishment (discipline)	
UF Disparity		NT Corporal punishment	
RT 5003		RT 2008	
		Dismissing*	
DIFFICULTY		Permissiveness	
USE Level of difficulty		Self discipline	
DIGITAL COMPUTERS	(0453)	DISCONTENT	(0459)
BT Computers		UF Dissatisfaction	
RT 15015		RT 7001	
		Conflict*	
DIMINISHING		Motivation	
USE Decrease			
DIPHTHONGS	(0454)	DISCOURAGEMENT	
RT 16001		USE Motivation	
DIRECTED STUDY		DISCOVERY LEARNING	(0460)
USE Guided learning		UF Independent study	
		Non directed study	
DISABILITY		Self directed study	
USE Handicap		RT 2015	
		Individualized instruction*	
DISADVANTAGED	(0455)	Induction*	
UF Underprivileged		Problem solving*	
RT 12001			
Handicap		DISCRETENESS	(0461)
		RT 5003	
		Clarity	
DISAGREEMENT		DISCRIMINABILITY	(0462)
USE Conflict		UF Distinguishability	
DISAPPROVAL	(0456)	RT 9002	
UF Reproof		Discrimination*	
7003			
Negative reward			

DISCRIMINATING POWER	(0463)	DISRUPTIVE BEHAVIOR	(0468)
SN Of a test or test		UF Disturbance	
item		Misbehavior	
RT 3002		Misconduct	
Test construction		BT Antisocial behavior	
		RT 2024	
		Hostility	
DISCRIMINATION	(0464)		
SN *			
RT 2016		DISSATISFACTION	
Discriminability*		USE Discontent	
Discriminating power			
Racial discrimination		DISSERTATIONS	(0469)
		RT 15026	
DISCUSSING			
USE Group discussion		DISSONANCE	(0470)
		SN Sound dimension	
DISEASE	(0465)	RT 9004	
RT 8001			
		DISTANCE	(0471)
DISLIKE		SN *	
USE Aversion		RT 5004	
		Interval*	
DISMISSING	(0466)		
SN Permanent disciplinary		DISTINCTNESS	
release of personnel		USE Clarity	
RT 2008			
Disciplining*		DISTINGUISHABILITY	
		USE Discriminability	
DISORIENTATION			
USE Confusion		DISTORTION	(0472)
		SN Sensory	
DISPARITY		RT 5002	
USE Difference		Perception	
		Sensation	
DISPLAYS			
USE Exhibits		DISTRACTIBILITY	(0473)
		RT 8003	
DISPOSITION	(0467)	Attention*	
SN *			
UF Predisposition		DISTRIBUTED PRACTICE	(0474)
Propensity		BT Practice	
Tendency		RT 2014	
RT 7006			
Attitude		DISTRIBUTION	(0475)
Drive (physiological)		SN *	
Set		RT 3001	

DISTRICTING	(0476)	DRAMA	(0486)
RT 2007		UF Play	
Administrating		RT 16002	
School district*			
		DRAMATIC ARTS	(0487)
DISTURBANCE		RT 17011	
USE Disruptive behavior			
		DRAWING	(0488)
DIVISION	(0477)	UF Sketches	
SN Arithmetical calculation		RT 15002	
RT 17005			
		DRILL	
DIVORCED	(0478)	USE Practice	
RT 12002			
Broken home*		DRIVER TRAINING	(0489)
		RT 17004	
DOCILITY	(0479)		
RT 7006		DRIVE (physiological)	(0490)
Resistive behavior*		SN *	
		RT 8003	
DOCTOR		Motivation*	
USE Physician		Need*	
DOCTORAL DEGREE	(0480)	DROP OUT	(0491)
RT 14002		RT 1002	
		Attrition rate*	
DOCUMENTARY FILMS	(0481)	Employment	
RT 15004		Failure*	
		Retraining	
DOGMATISM			
USE Authoritarianism		DROP OUT RATE	
		USE Attrition rate	
DOGS	(0482)		
RT 15025		DRUGS	(0492)
		RT 15022	
DOMINANCE	(0483)	Addiction*	
SN Of greater importance		Medical treatment	
or prominence as of			
stimuli		DURATION	(0493)
RT 3001		SN *	
Ascendance		RT 4001	
Laterality		Span*	
DONATIONS		DUTY	(0494)
USE Gifts		RT 12004	
DORMITORY	(0484)	DYSFUNCTION	
RT 15027		USE Malfunction	
DRAFTING	(0485)	DYSGRAPHIA	(0495)
RT 17010			

DYSGRAPHIA (Cont'd.)		ECONOMIC CONDITIONS	(0503)
BT Mental handicap		UF Depression (economic)	
RT 8001		RT 13001	
Writing			
DYSLEXIA	(0496)	ECONOMIC STATUS	
BT Mental handicap		USE Income level	
RT 8001			
Reading ability*		ECONOMICS	(0504)
		RT 17006	
EAM EQUIPMENT	(0497)	EDGE NOTCHED CARDS	(0505)
SN Electronic accounting machines		RT 15003	
RT 15015		EDUCABILITY	(0506)
EAR EXAMINATION	(0498)	RT 6001	
BT Physical examination		Docility	
RT 2003		Handicap	
Hearing*		EDUCATION	(0507)
EARLY ADMISSION	(0499)	SN *	
BT Admission		RT 2012	
RT 2010		Curriculum	
Admission test		Education courses	
Gifted children*		EDUCATION COURSES	(0508)
Qualifications		RT 17014	
		Teacher education*	
EARLY ADOLESCENCE	(0500)	EDUCATIONAL LEVEL	(0509)
SN Age twelve to four-teen		SN *	
UF Puberty		UF Grade placement	
BT Adolescence		Grade (educational level)	
RT 8005		RT 14001	
Junior high school		Chronological age*	
Senior high school		Non graded curriculum	
EARLY CHILDHOOD	(0501)	EDUCATIONAL OBJECTIVES	(0510)
SN Age one to six		RT 7005	
UF Preschool child		EDUCATIONAL OPPORTUNITY	(0511)
BT Childhood		RT 12004	
RT 8005		EDUCATIONAL OUTCOMES	(0512)
Preschool level		UF Terminal behavior	
EARPHONE		RT 6004	
USE Headphone			
EARTH SCIENCES	(0502)	EDUCATIONAL RESEARCH	(0513)
SN *		RT 10002	
RT 17015		EDUCATIONAL RADIO	(0514)
		BT Radio	
		RT 15014	

EDUCATIONAL TELEVISION	(0515)	ELEMENTARY SCHOOL GRADUATE	(0526)
UF ETV		SN Use only if a variable	
RT 15007		in the population	
Televised instruction*		RT 14003	
EDUCATIONAL TEST		ELIGIBILITY	
USE Achievement test		USE Qualifications	
EFFECT	(0516)	ELLIPSE	(0527)
SN *		RT 5006	
RT 6004			
EFFECTANCE		EMERGENCY	(0528)
USE Competence motivation		RT 12004	
EFFECTIVENESS	(0517)	EMOTION	(0529)
RT 3002		SN *	
		BT Affect	
EFFICIENCY	(0518)	RT 7001	
RT 3002		Attitude	
Cost*		Mental health	
Productivity*		Motivation	
		Personality	
		Temperament	
EGO	(0519)	EMOTIONAL BLOCKING	(0530)
SN *		RT 7002	
RT 7002			
EGO DEFENSE	(0520)	EMOTIONAL DEVELOPMENT	(0531)
UF Defense		RT 2022	
RT 7002		Affect*	
		Emotional maturity*	
EGO STRENGTH	(0521)	EMOTIONAL DISTURBANCE	(0532)
RT 7002		SN *	
EGOCENTRISM	(0522)	RT 7008	
RT 7002		Personality test*	
		Play therapy*	
ELECTIVES	(0523)	EMOTIONAL MATURITY	(0533)
RT 10002		RT 7008	
ELECTRONICS	(0524)	Emotional Development*	
RT 17008			
ELEMENTARY SCHOOL	(0525)	EMOTIONAL STABILITY	(0534)
UF Grade school		RT 7008	
Grammar school		Affectivity	
NT Intermediate grades		Social interaction*	
Primary school			
RT 14001		EMOTIONAL TENSION	(0535)
Late childhood		UF Tension	
Mid childhood		RT 7001	
		Strain	

EMPIRICISM	(0536)	ENGINEER	(0546)
RT 7004		RT 1007	
EMPLOYABILITY	(0537)	ENGINEERING	(0547)
RT 6001		RT 17008	
Employment*		ENGLISH	(0548)
Handicap		SN *	
Vocational education		RT 17012	
EMPLOYMENT	(0538)	Second language learning	
UF Unemployment		ENGLISH LITERATURE	(0549)
RT 12001		BT Literature courses	
Employability*		RT 17012	
Hiring		ENRICHMENT	(0550)
Job interview*		NT Academic enrichment	
Job opportunity*		Cultural enrichment	
Job placement*		RT 2012	
EMULATION	(0539)	Cultural deprivation	
RT 2023		ENROLLMENT SIZE	(0551)
Aspiration		SN Total number of	
ENCODING	(0540)	students in a school	
SN Communication theory		UF School size	
BT Coding		RT 3001	
RT 2001		Large school*	
Code		Small school*	
Communication theory		ENTHUSIASM	(0552)
Message		RT 7003	
ENCOURAGEMENT		Motivation*	
USE Motivation		ENTRANCE	
ENCYCLOPEDIA	(0541)	USE Admission	
RT 15026		ENVIRONMENT	(0553)
ENDOWMENTS	(0542)	SN *	
SN Financial		RT 12003	
RT 13001		EQUILIBRIUM	(0554)
ENDURANCE	(0543)	USE Balance	
SN Human		EQUIPMENT	(0555)
RT 8002		SN *	
ENERGY	(0544)	UF Apparatus	
SN Human		Devices	
RT 8002		Instruments	
ENFORCING	(0545)	Tools	
SN *		RT 15001	
RT 2007			

EQUIPMENT INVENTORY	(0556)	EVENING CLASSES	(0565)
SN Includes materials		UF Night school	
RT 2007		RT 4002	
		Adult education	
EQUIVALENCE	(0557)	Industrial education	
SN *			
RT 5003		EXAGGERATION	(0566)
Congruency		SN Visual stylistics	
		RT 5002	
EQUIVOCALITY		Drawing	
USE Ambiguity		Visuals	
ERROR	(0558)	EXAMINATION	
SN *		USE Test	
UF Mistake			
RT 6005		EXCELLENCE	
		USE Skill	
ERROR RATE	(0559)		
RT 6005		EXCEPTIONAL CHILDREN	(0567)
ESSAY	(0560)	SN *	
SN Literature type		RT 1002	
RT 16002		Intelligence	
		Mental handicap	
ESSAY ITEM	(0561)	Physical handicap	
RT 11003		Special education*	
Constructed response		EXCHANGE PROFESSOR	
		USE Exchange teacher	
ESTIMATING	(0562)		
SN Of distance and number		EXCHANGE PROGRAM	(0568)
UF Judging (distance or		RT 10002	
number)		Foreign student*	
RT 2004			
Space errors		EXCHANGE TEACHER	(0569)
		UF Exchange professor	
ETHNIC GROUP	(0563)	RT 1003	
RT 1001			
Cultural assimilation*		EXCITABILITY	
Cultural values*		USE Sensitivity	
Nationality*			
Race*		EXCITATION	(0570)
Racial integration*		SN Of nerve tissue	
		RT 8003	
ETV			
USE Educational television		EXCURSION	
		USE Field trip	
EVALUATING	(0564)		
SN *		EXERCISE	
RT 2004		USE Practice	
Analysis*			
Appreciation*			

EXHAUSTION	(0571)	EXPRESSIVENESS	(0577)
UF Fatigue		RT 7001	
RT 8003		Responsiveness*	
Physical fitness*		Social interaction	
EXHIBITIONS		Speaking	
USE Exhibits		Spontaneity*	
		Writing	
EXHIBITS	(0572)	EXTERNAL PACING	(0578)
UF Displays		UF Controlled pacing	
Exhibitions		Group pacing	
RT 15002		Machine pacing	
EXPANSION		BT Pacing	
USE Increase		RT 4001	
EXPENDITURES		EXTINCTION	(0579)
USE Cost		SN Weakening of a conditioned response by withholding the reward	
EXPENSE		RT 2013	
USE Cost		EXTRA CURRICULAR ACTIVITIES	(0580)
EXPERIENCE	(0573)	RT 17001	
SN Amount of prior experience in relation to a present situation		Clubs*	
RT 7007		EXTRINSIC MOTIVATION	(0581)
Length of service*		BT Motivation	
Prior knowledge		RT 7005	
EXPERTNESS		EXTROVERSION	(0582)
USE Skill		RT 7001	
		Introversion*	
		Social interaction	
EXPLICITNESS	(0574)	EYE DOMINANCE	
SN *		USE Eyedness	
RT 9002		EYE EXAMINATION	(0583)
Clarity		BT Physical examination	
Denotation		RT 2003	
EXPOSITORY WRITING	(0575)	Vision*	
BT Writing		EYE MOVEMENT	(0584)
RT 2019		NT Fixation pause	
Logical organization		Ocular pursuit	
EXPOSURE TIME	(0576)	Ocular regression	
SN Length of time a stimulus is present		RT 2020	
RT 4001		Eye span*	
Perceptibility*		Ophthalmograph*	
		Reading*	

EYE SPAN	(0585)	FAMILY	(0594)
RT 9001		SN *	
Eye movement*		RT 12002	
Reading*			
EYEDNESS	(0586)	FANTASY	
UF Eye dominance		USE fulfillment	
BT Laterality		FAR SIGHTEDNESS	
RT 8003		USE Hyperopia	
Vision*			
EYESIGHT		FARMER	(0595)
USE Vision		RT 1009	
EYESTRAIN	(0587)	FASCISM	(0596)
RT 8003		BT Totalitarianism	
		RT 7004	
FABRICS	(0588)	FATHER	(0597)
RT 15022		RT 12002	
FACET CLASSIFICATION	(0589)	FATIGUE	
BT Library classification		USE Exhaustion	
RT 2001			
FACILITIES	(0590)	FEAR	(0598)
SN *		RT 7001	
RT 15027		Paranoia*	
FACTORS		FEDERAL LEVEL	(0599)
USE Variables		RT 15029	
		Canadian Government*	
FAILURE	(0591)	FEEDBACK	(0600)
UF Academic retention		RT 11002	
RT 6004		Reinforcement*	
Drop out*			
Repeater*		FEELING	(0601)
FAIRNESS	(0592)	SN *	
UF Impartiality		BT Affect	
Tolerance		RT 7001	
RT 7003		Attitude	
FAITH		Cultaneous sense	
USE Trust		Mental health	
		Motivation	
FAMILIARITY	(0593)	Personality	
RT 7007		Temperament	
Prior knowledge		FEELING OF INADEQUACY	(0602)
		UF Inadequacy (feeling)	
		RT 7001	
		Self Assurance	

FELLOWSHIPS	(0603)	FINANCIAL REPORTS	(0615)
RT 13002		RT 15026	
FEMALE	(0604)	FINE ARTS	(0616)
RT 8004		SN *	
		RT 17009	
FIELD TRIP	(0605)	FINGERING	(0617)
UF Excursion		SN Manual task sense	
RT 2005		RT 2020	
Teaching method		Motor skills	
FIGURES	(0606)	FINGERSPELLING	(0618)
SN *		SN Spelling by finger	
RT 15002		movements	
Data		RT 2018	
Figure ground relations		Hearing disorder*	
FILE CABINETS	(0607)	FIRE DEPARTMENT	(0619)
RT 15020		RT 1001	
FILM LOOPS	(0608)	FIRE ESCAPES	(0620)
RT 15004		RT 15020	
FILM VIEWER	(0609)	FIRE PREVENTION	(0621)
RT 15006		RT 2007	
FILMING	(0610)	Building inspection*	
SN Excluding videotaping		FISCAL POLICY	(0622)
UF Photographing		RT 13001	
RT 2006		FITNESS	
Photographs*		USE Physical fitness	
FILMS	(0611)	FIXATION PAUSE	(0623)
SN *		BT Eye movement	
UF Motion pictures		RT 2020	
Movies		FIXED SEQUENCE PROGRAM	
RT 15004		USE Linear program	
Cameras		FLANNEL BOARD	(0624)
Mass media*		RT 15008	
FILMSTRIPS	(0612)	FLASH CARDS	(0625)
RT 15004		RT 15003	
FINANCE	(0613)	FLIGHT TRAINER	(0626)
SN *		SN Device	
RT 13001		NT Link trainer	
Investing*		RT 15011	
FINANCIAL AID	(0614)		
NT Relief			
RT 13002			

FLIGHT TRAINER (Cont'd.)		FOREKNOWLEDGE	
Flight training*		USE prior knowledge	
RT 17004			
Flight trainer*		FORESTRY	(0635)
		RT 17016	
FLOORS	(0627)	FORM	
RT 15020		USE Shape	
FLOW CHARTS	(0628)	FORMAT	(0636)
RT 15003		RT 5005	
FLUCTUATION		Style*	
USE Variability			
FLUENCY	(0629)	FOUNDATIONS (PHILANTHROPIC)	(0637)
RT 6003		RT 1001	
Literacy			
Speaking		FOUR H CLUBS	(0638)
Verbal learning		RT 1001	
FOOD	(0630)	FRATERNITY	(0639)
RT 15002		RT 1001	
Malnutrition*			
FOOTBALL	(0631)	FREEDOM	(0640)
BT Sports		SN *	
RT 8003		RT 12004	
		Authoritarianism	
		Restrictions*	
FORCE			
USE Coercion		FREEDOM OF SPEECH	(0641)
		RT 12004	
FOREIGN LANGUAGES	(0632)	FRENCH (LANGUAGE)	(0642)
SN *		RT 17013	
RT 17013			
Aural oral method*		FREQUENCY	(0643)
Language laboratory		SN *	
Second language learning*		RT 4001	
		Frequency distribution	
FOREIGN STUDENT	(0633)	Repetition	
RT 1002			
Exchange program*		FREQUENCY DISTRIBUTION	(0644)
Foreign student advisor*		RT 3001	
FOREIGN STUDENT ADVISOR	(0634)	FREQUENCY OF OCCURRENCE	(0645)
RT 1005		UF Incidence	
Counseling		RT 4001	
Foreign students*			

FRESHMAN	(0646)	GAMES	(0657)
SN College		SN Excluding sports	
BT Undergraduate level		RT 17001	
RT 14001			
FRIENDLINESS	(0647)	GATES LIST	(0658)
RT 7001		RT 15026	
Interpersonal relations*		GATTENGO MATERIAL	(0659)
Social interaction		SN Teaching aids which make use of color as cues	
FRINGE BENEFITS	(0648)	RT 15015	
SN *		GAZETEER	(0660)
RT 13001		RT 15026	
FRUSTRATION	(0649)	GENERAL ABILITY	
RT 7001		USE Intelligence	
Achievement			
FULL TIME	(0650)	GENERALIZATION	(0661)
RT 4002		SN Forming a judgment applicable to a whole class	
Course load*		RT 2016	
FUNCTIONAL BLINDNESS	(0651)	Response generalization	
BT Blindness		GEOGRAPHICAL MOBILITY	(0662)
RT 8001		UF Relocating	
Mental illness		RT 2021	
FUNCTIONAL DEAFNESS	(0652)	Demographic data*	
BT Hearing disorder		Job opportunity*	
RT 8001		Migrant worker*	
Mental illness		Transfer student*	
FUNCTIONAL SPEECH DISORDER	(0653)	GEOGRAPHY	(0663)
BT Speech disorder		RT 17014	
RT 8001		GEOLOGY	(0664)
Mental illness*		RT 17015	
FUNDS	(0654)	GEOMETRIC SHAPE	(0665)
SN *		SN *	
RT 13001		RT 5006	
FURNITURE	(0655)	GEOMETRY	(0666)
SN *		BT Mathematics	
RT 15020		RT 17005	
GAIT	(0656)	GERMAN (LANGUAGE)	(0667)
RT 8002		RT 17013	
Motor activity			

GIFTED CHILDREN	(0669)	GRADE FOUR	(0679)
RT 1002		BT Intermediate grades	
Acceleration		RT 14001	
Advanced placement program			
Early admission*		GRADE NINE	(0680)
High intelligence*		BT Junior high school	
		RT 14001	
GIFTEDNESS			
USE High intelligence		GRADE ONE	(0681)
		BT Primary school	
GIFTS	(0670)	RT 14001	
UF Contributions			
Donations		GRADE PLACEMENT	
RT 13001		USE Educational level	
GLASS	(0671)	GRADE POINT AVERAGE	(0682)
SN Material		RT 6004	
RT 15022		Class rank*	
GLASSES	(0672)	GRADE SCHOOL	
SN Optical aid		USE Elementary school	
RT 15021			
GLOSSARY	(0673)	GRADE SEVEN	(0683)
RT 15026		BT Junior high school	
		RT 14001	
GOAL	(0674)	GRADE SIX	(0684)
UF Aim		BT Intermediate grades	
Objectives		RT 14001	
Purpose			
RT 7005		GRADE TEN	(0685)
Educational objectives		BT Senior high school	
Values		RT 14001	
GOLF	(0675)	GRADE THREE	(0686)
BT Sports		BT Primary school	
RT 17001		RT 14001	
GRADE EIGHT	(0676)	GRADE TWELVE	(0687)
BT Junior high school		BT Senior high school	
RT 14001		RT 14001	
GRADE ELEVEN	(0677)	GRADE TWO	(0688)
BT Senior high school		BT Primary school	
RT 14001		RT 14001	
GRADE FIVE	(0678)	GRADED READERS	(0689)
BT Intermediate grades		RT 15026	
RT 14001		Readability*	

GRADE (EDUCATIONAL LEVEL)		GRASPING	(0700)
USE Educational level		SN Manual task sense	
		RT 2020	
GRADE (SCHOOL MARK)	(0690)	Motor skills	
UF Mark (school mark)			
RT 6004			
GRADING (SCHOOL MARK)	(0691)	GRATIFICATION	
UF Marking (school mark)		USE Satisfaction	
RT 2004			
Scoring*			
GRADUATE	(0692)	GROUP ACTIVITY	(0701)
SN Use only if a variable		RT 2023	
in the population			
RT 14003		GROUP ATMOSPHERE	(0702)
GRADUATE ASSISTANT	(0693)	UF Group climate	
RT 1003		RT 12003	
		Authoritarianism*	
		Permissiveness	
GRADUATE LEVEL	(0694)	GROUP CLIMATE	
SN Including study towards		USE Group atmosphere	
masters and doctoral			
degrees		GROUP COUNSELING	(0703)
UF Graduate school		BT Counseling	
Postgraduate level		RT 2011	
BT Higher education			
RT 14001		GROUP DIFFERENCES	(0704)
GRADUATE SCHOOL		RT 5003	
USE Graduate level			
GRAMMAR	(0695)	GROUP DISCUSSION	(0705)
RT 17012		SN Teaching method	
		UF Discussing	
		RT 2012	
		Group Planning*	
GRAMMAR SCHOOL		GROUP DYNAMICS	(0706)
USE Elementary school		RT 2023	
GRANTS	(0696)	Intergroup relations*	
SN *		Role change	
RT 13002			
GRANTS IN AID	(0697)	GROUP PACING	
RT 13002		USE External pacing	
GRAPHIC ARTS	(0698)	GROUP PLANNING	(0707)
SN *		BT Planning	
RT 17009		RT 2007	
		Decision making*	
GRAPHS	(0699)	Group discussion*	
SN *		Team teaching*	
RT 15003		Teamwork*	

GROUPING	(0708)	HABIT	(0717)
NT Heterogeneous grouping		SN *	
Homogeneous grouping		RT 7006	
RT 2009		Addiction	
		Customs*	
GROWTH	(0709)	Habituation*	
SN *		Listening habits	
RT 2022		Motivation*	
		Reading habits	
GUESSING	(0710)	Set*	
RT 2016		Study habits	
Trial and error learning*		Viewing habits	
GUIDANCE		HABIT FORMATION	
USE Counseling		USE Habituation	
GUIDANCE COUNSELOR		HABITUATION	(0718)
USE Counselor		SN *	
		UF Habit formation	
GUIDEBOOKS	(0711)	RT 2015	
RT 15026		Addiction	
		Habit*	
GUIDED LEARNING	(0712)	Listening habits	
UF Directed study		Reading habits	
Guided study		Viewing habits	
RT 2015			
Teaching method*			
		HALF DAY	(0719)
GUIDED STUDY		RT 4002	
USE Guided learning			
		HANDBOOKS	(0720)
		RT 15026	
GUIDELINES	(0713)	HANDEDNESS	(0721)
RT 10001		BT Laterality	
		NT Ambidexterity	
GUILT	(0714)	Left handedness	
RT 7002		Right handedness	
		RT 8003	
GYMNASIUM	(0715)		
RT 15027		HANDICAP	(0722)
		SN *	
GYMNASTICS	(0716)	UF Disability	
BT Sports		RT 8001	
17001			
		HAPPINESS	(0723)
		RT 7001	
		HARD OF HEARING	(0724)
		BT Hearing disorder	
		RT 8001	

HARVEY WHITE FILMS	(0725)	HEARING DISORDER	(0735)
SN Physics course		UF Hearing loss	
RT 15004		BT Physical handicap	
		NT Deafness	
HAWTHORNE EFFECT	(0726)	Functional deafness	
RT 7005		Hard of hearing	
HEADPHONE	(0727)	RT 8001	
UF Earphone		Fingerspelling*	
Headset		Hearing*	
RT 15014		Lip reading*	
		Sound	
HEADSET		HEARING LOSS	
USE Headphone		USE Hearing disorder	
HEALTH	(0728)	HEATING	(0736)
SN Physical		RT 15020	
RT 8001			
Mental health*		HEIGHT	(0737)
HEALTH EDUCATION	(0729)	SN Human	
RT 17002		RT 8002	
Health practices*		HEREDITY	(0738)
HEALTH INSURANCE	(0730)	RT 8001	
UF Hospitalization		Parent	
insurance			
RT 13001		HESITANCE	(0739)
HEALTH PRACTICES	(0731)	UF Reluctance	
SN *		RT 7003	
RT 2007		Indecision*	
Health			
Health education*		HETEROGENEITY	(0740)
Personal hygiene*		RT 5003	
		Heterogeneous grouping	
HEARING	(0732)	HETEROGENEOUS GROUPING	(0741)
UF Auditory acuity		BT Grouping	
RT 9001		RT 2009	
Auditory comprehension*			
Auditory perception*		HIERARCHY	(0742)
Ear examination*		RT 10001	
Hearing disorder*		Classification	
Threshold			
HEARING AID	(0733)	HIGH INCOME	(0743)
RT 15014		RT 12001	
HEARING CLINIC	(0734)	HIGH INTELLIGENCE	(0744)
RT 15028		UF Giftedness	
		RT 6001	
		Advanced placement program	
		Gifted children*	

HIGH SCHOOL		HOME VISITATION	(0755)
USE Senior high school		RT 2005	
		Home School relations*	
HIGHER EDUCATION	(0745)	Home bound	
UF Higher learning			
NT College		HOMEBOUND	(0756)
Graduate level		RT 8001	
Postdoctoral level		Convalescence*	
RT 14001		Home visitation*	
HIGHER LEARNING			
USE Higher education		HOMEROOM	(0757)
		RT 15027	
		Homeroom teacher*	
HINDU	(0746)		
RT 12005		HOMEROOM TEACHER	(0758)
		RT 1003	
HIRING	(0747)	Homeroom*	
RT 2010			
Teacher selection*			
HISTOGRAMS	(0748)	HOMEWORK	(0759)
RT 15003		SN Of students	
		RT 2014	
		Academic pressures*	
		Course load*	
HISTORY	(0749)		
NT Canadian history		HOMOGENEOUS GROUPING	(0760)
World history		BT Grouping	
RT 17014		NT Ability grouping	
		RT 2009	
HOCKEY	(0750)		
BT Sports		HOMOSEXUALITY	(0761)
RT 17001		BT Sexual inversion	
		RT 8004	
HOME			
USE Residence		HONESTY	(0762)
		UF Cheating	
HOME ECONOMICS	(0751)	Deception	
RT 17018		Lying	
		RT 7006	
HOME ECONOMIST	(0752)		
RT 1006		HONORS PROGRAM	(0763)
		RT 10002	
HOME ENVIRONMENT	(0753)	Academic enrichment*	
RT 12003		Awards	
HOME SCHOOL RELATIONS	(0754)	HORIZONTAL SOCIAL MOBILITY	(0764)
RT 12003		BT Social mobility	
Home visitation*		RT 12001	

HOSPITAL	(0765)	IDEA	
SN *		USE Concept	
RT 15028			
Institutional care*		IDEALISM	(0775)
		RT 7004	
HOSPITALIZATION INSURANCE		IDENTIFICATION (PSYCHOLOGICAL)	
USE Health insurance		RT 7002	(0776)
HOSPITALIZING		Discrimination	
USE Institutional care		Recognition	
HOSTILITY	(0766)	IDEOLOGY	(0777)
RT 7001		SN *	
Antisocial behavior*		RT 7004	
Attitude		Attitude*	
Conflict		Belief*	
Mental health		Political affiliation*	
Resistive behavior*			
HOUSEWIFE	(0767)	ILLITERACY	
RT 1008		USE Literacy	
HOUSING	(0768)	ILLNESS	(0778)
RT 15027		SN *	
Urban renewal*		UF Sickness	
		RT 8001	
		Mental illness	
HUE (COLOR)	(0769)	ILLUMINATION	(0779)
RT 9003		UF Lighting	
HUMANISM	(0770)	NT Artificial light	
RT 7004		Natural light	
HUNGER	(0771)	RT 9003	
RT 8003		Classroom environment*	
Malnutrition		ILLUSTRATIONS	(0780)
HUSBAND	(0772)	SN Of books	
RT 12002		RT 15002	
HYPEROPIA	(0773)	IMAGES	(0781)
UF Far sightedness		SN *	
BT Visual handicap		RT 15002	
RT 8001		IMAGINATION	
HYPNOSIS	(0774)	USE Creativity	
RT 8003		IMBALANCE	
Suggestibility*		USE Balance	
IBM CARDS		IMITATION	(0782)
USE Punched cards		SN Behavior	
		RT 2023	

IMMEDIACY	(0783)	IN SERVICE TRAINING	(0789)
SN *		SN	Special training for
RT 4001			employed persons who
Significance*			are not beginners or
			trainees.
IMMIGRANT	(0784)	RT 2012	On the job training*
UF Immigration			
RT 12001			
Cultural assimilation*			
IMMIGRATION		INADEQUACY (FEELING)	
USE Immigrant		USE Feeling of inadequacy	
IMMUNIZATION	(0785)	INCIDENCE	
SN Against disease		USE Frequency of occurrence	
RT 2007			
Health			
IMPARTIALITY		INCIDENTAL LEARNING	
USE Fairness		RT 2015	(0790)
IMPLEMENTATION			
USE Utilization		INCOME LEVEL	(0791)
		SN *	
IMPLICITNESS	(0786)	UF Economic status	
SN *		RT 12001	
RT 9002		Salary	
Connotation			
IMPORTANCE		INCONGRUITY	(0792)
USE Significance		SN Of logical relations	
		RT 5002	
IMPOVERISHED		Logical organization	
USE Poverty			
IMPROVEMENT		INCREASE	(0793)
USE Achievement		UF Expansion	
		RT 2021	
IMPROVING	(0787)	INDECISION	(0794)
SN *		RT 7007	
UF Upgrading		Hesitance*	
RT 2021			
IMPULSIVENESS	(0788)	INDEPENDENCE	
UF Impulsivity		USE Autonomy	
RT 7006			
Hesitance		INDEPENDENT STUDY	
		USE Discovery learning	
IMPULSIVITY		INDEPENDENT VARIABLE	(0795)
USE Impulsiveness		RT 5001	
		INDEX	(0796)
		RT 15026	

INDEXING	(0797)	INFANCY	(0804)
RT 2001		SN Birth to one year	
Information Service*		UF Baby	
Library classification*		RT 8005	
INDIAN	(0798)	INFERENCE	(0805)
BT Non white race		SN Logical process	
RT 8004		RT 2016	
INDIFFERENCE		INFLECTION	(0806)
USE Apathy		SN Speech	
INDIVIDUAL DIFFERENCES	(0799)	RT 9004	
SN *		Speaking	
RT 5003		INFLUENCE	(0807)
Ability*		RT 5001	
Aptitude*		Motivation	
Individualized instruction*		Parental pressure	
Skill*		Social interaction	
Special education*		INFORMATION SERVICE	(0808)
INDIVIDUALITY		SN Service provided by	
USE Personality		information centers	
INDIVIDUALIZED INSTRUCTION	(0800)	and libraries	
RT 2012		UF Library service	
Correspondence courses*		RT 2018	
Discovery learning*		Abstracting*	
Individual differences*		Indexing*	
INDUCEMENT		Library	
USE Motivation		Materials selection*	
INDUCTION	(0801)	INGENUITY	
SN Logical process		USE Resourcefulness	
RT 2016		INHIBITION	(0809)
Discovery learning*		SN *	
Teaching method*		RT 6005	
INDUSTRIAL ARTS	(0802)	Job success	
RT 17010		Learning inhibition	
INDUSTRIAL EDUCATION	(0803)	Neural inhibition	
SN Company sponsored		Social inhibition	
and directed Edu-		INJURY	(0810)
cational programs		SN *	
RT 2012		RT 8001	
		Accident prevention	
		INK	(0811)
		RT 15023	

INNOVATION	(0812)	INSTRUCTIONAL TEST	(0821)
SN Educational change		SN A test intentionally	
RT 2021		used as an instructional device	
INQUIRY METHOD	(0813)	RT 2002	
UF Question asking		Programmed instruction*	
RT 2012			
INSECURITY	(0814)	INSTRUCTOR	
SN Emotional		USE Teacher	
RT 7001		INSTRUCTOR TRAINING	
INSPECTION	(0815)	USE Teacher education	
SN *		INSTRUMENT PANELS	(0822)
RT 2007		RT 15016	
Building inspection		INSTRUMENTAL CONDITIONING	
INSTITUTION	(0816)	USE Operant conditioning	
SN *		INSTRUMENTAL MUSIC	(0823)
RT 15028		RT 17011	
INSTITUTIONAL AGE	(0817)	Musical instruments*	
RT 4001		INSTRUMENTS	
INSTITUTIONAL CARE	(0818)	USE Equipment	
UF Hospitalizing		INSUFFICIENCY	
RT 2011		USE Adequacy	
Hospital*		INSURANCE	(0824)
Institutionalized*		SN *	
Mental illness		RT 13001	
INSTITUTIONALIZED	(0819)	INTEGRATIONAL (RACIAL)	
RT 8001		USE Racial integration	
Institutional care*		INTELLIGENCE	(0825)
INSTRUCTION		SN *	
USE Teaching		UF General ability	
INSTRUCTION RATE		Mental ability	
USE Pacing		RT 6001	
INSTRUCTION TIME	(0820)	Intelligence test*	
SN Total time spent for		Mental development*	
a given block of		INTELLIGENCE QUOTIENT	(0826)
instruction		UF IQ	
RT 4001		RT 6001	
INSTRUCTIONAL TELEVISION			
USE Televised instruction			

- INTELLIGENCE TEST (0827)
 UF Mental test
 BT Psychological test
 NT Ability test
 Aptitude test
 RT 2002
 Intelligence*
 Mental development*
- INTELLIGIBILITY (0828)
 UF Coherence
 Understandability
 RT 11001
 Logical organization*
 Perceptibility*
- INTENSITY (0829)
 RT 3001
- INTERACTION (0830)
 SN *
 UF Interplay
 RT 2023
 Influence
- INTERCOMMUNICATION SYSTEM (0831)
 SN *
 RT 15014
- INTEREST (0832)
 SN Psychological sense
 RT 7003
 Interest test*
 Motivation*
- INTEREST TEST (0833)
 BT Psychological test
 RT 2002
 Interest*
- INTERFERENCE (0834)
 SN Light and sound waves
 RT 9004
- INTERGROUP RELATIONS (0835)
 SN *
 RT 12003
 Group dynamics*
- INTERMEDIATE GRADES (0836)
 UF Middle grades
 BT Elementary school
 NT Grade five
 Grade four
 Grade six
 RT 14001
- INTERPERSONAL CONFERENCE (0837)
 SN Face to face communica-
 tion, as between teacher
 and student
 UF Conference (Interpersonal)
 RT 2018
 Counseling*
 Interpersonal relations*
- INTERPERSONAL RELATIONS (0838)
 SN *
 RT 12003
 Friendliness*
 Interpersonal conference*
 Social aptitude*
 Social differences*
 Social interaction*
 Social problems*
- INTERPLAY
 USE Interaction
- INTERPRETATION (0839)
 SN *
 RT 2001
- INTERRUPTION (0840)
 SN *
 RT 4001
 Disruptive behavior
- INTERSENSORY PERCEPTION (0841)
 SN Perception involving
 several sense
 Modes
 RT 2016
 Multisensory presentation*
 Sense mode
- INTERSTUDENT RELATIONS (0842)
 RT 12003
 Sociometric test*
 Student organizations*

INTERVAL	(0843)	INVENTORY	(0850)
SN *		SN *	
RT 4001		RT 2007	
Distance*		Equipment inventory	
		Personality inventory	
INTERVIEW		INVESTING	(0851)
USE Interviewing		SN Financial	
INTERVIEWING	(0844)	RT 2007	
UF Interview		Finance*	
NT Job interview		INVOLVEMENT	(0852)
RT 2018		RT 7003	
Counseling*		Social consciousness	
Screening*			
INTOLERANCE		IQ	
USE Prejudice		USE Intelligence Quotient	
INTONATION	(0845)	ITEM ANALYSIS	(0853)
SN Pitch as uttered		SN Of tests	
RT 9004		RT 2001	
Speaking		Item difficulty	
INTRAMURAL ACTIVITIES	(0846)	Level of complexity	
RT 2023		Test evaluation	
Sports		Test validity	
		Testing	
INTRINSIC MOTIVATION	(0847)	ITEM DIFFICULTY	(0854)
BT Motivation		RT 3002	
NT Competence motivation		Test item*	
RT 7005			
INTRINSIC PROGRAM		JAIL	
USE Branching program		USE Prison	
INTROVERSION	(0848)	JAPANESE (LANGUAGE)	(0855)
RT 7002		RT 17013	
Extroversion*		JEW	(0856)
Mental health		RT 12005	
INTUITION	(0849)	JIGSAW PUZZLES	(0857)
RT 2016		RT 15017	
Creativity*		JOB ANALYSIS	(0858)
INVENTIVENESS		RT 2001	
USE Resourcefulness		Job specifications*	
		Working conditions	

JOB INTERVIEW	(0859)	JUMPING	(0868)
BT Interviewing		RT 2020	
RT 2018			
Employment*		JUNIOR	(0869)
Screening		SN College	
		BT Undergraduate level	
JOB OPPORTUNITY	(0860)	RT 14001	
RT 12004			
Employment*		JUNIOR COLLEGE	(0870)
Geographical mobility*		BT Two year college	
Job placement*		RT 14001	
JOB PERFORMANCE	(0861)	JUNIOR HIGH SCHOOL	(0871)
RT 6004		BT Secondary school	
		NT Grade eight	
JOB PLACEMENT	(0862)	Grade nine	
RT 2011		Grade seven	
Employment*		RT 14001	
Job opportunity*		Early adolescence	
Qualifications		Late childhood	
Vocational education*			
		JUNIOR HIGH SCHOOL GRADUATE	(0872)
JOB SPECIFICATIONS	(0863)	SN Use only if a variable	
RT 3001		in the population	
Job analysis*		RT 14003	
Job interview			
Qualifications		JUVENILE COURT	(0873)
		RT 15028	
JOB SUCCESS	(0864)	Juvenile probation*	
UF Vocational inhibition			
RT 6004		JUVENILE DELINQUENCY	(0874)
Vocational aptitude*		UF Delinquency	
		BT Antisocial behavior	
JOB TRAINING		RT 2024	
USE Vocational education		Hostility	
		Juvenile probation*	
JOURNALISM	(0865)	Law enforcement*	
RT 17012		Truancy*	
English			
Writing		JUVENILE PROBATION	(0875)
		RT 12004	
JOURNALS	(0866)	Juvenile court*	
RT 15026		Juvenile delinquency*	
		Probation officer*	
JUDGING	(0867)		
SN Of contests and		KEYBOARD	(0876)
competitions		RT 15016	
RT 2004			
		KEYPUNCH	(0877)
JUDGING (DISTANCE OR NUMBER)		SN Device	
USE Estimating		RT 15016	

KINDERGARDEN	(0878)	RT	2015	
BT	Preschool level		Fluency	
RT	14001		Language comprehension*	
KINESCOPES	(0879)		Reading*	
RT	15004		Speaking*	
			Verbal ability*	
			Writing*	
KNOWLEDGE OF RESULTS	(0880)	LANGUAGE LABORATORY		(0890)
RT	11002	RT	15027	
	Reinforcement*		Aural oral method*	
	Self scoring*			
LABEL	(0881)	LANGUAGE SKILLS		(0891)
RT	16001	RT	6003	
			Language comprehension*	
LABOR MANAGEMENT RELATIONS	(0882)		Verbal ability	
RT	12003			
LABOR UNION	(0883)	LANGUAGE USAGE		(0892)
RT	1001	UF	Usage (language)	
		BT	Language development	
LABORATORY	(0884)	RT	2015	
SN	*			
RT	15027	LARGE SCHOOL		(0893)
		RT	15028	
			Enrollment size*	
LABORATORY REPORTS	(0885)	LATE ADOLESCENCE		(0894)
RT	15026	SN	Age sixteen to twenty-one	
LABORER	(0886)	BT	Adolescence	
RT	1009	RT	8005	
			Senior high school	
LANGUAGE ARTS	(0887)	LATE CHILDHOOD		(0895)
RT	17012	SN	Age ten to twelve	
	Reading	UF	Preadolescence	
	Speaking	BT	Childhood	
	Writing	RT	8005	
			Elementary school	
LANGUAGE COMPREHENSION	(0888)		Junior high school	
RT	2016	LATERALITY		(0896)
	Language development*	SN	Preferential use of one	
	Language skills*		side of the body	
	Verbal ability*	NT	Eyedness	
LANGUAGE DEVELOPMENT	(0889)		Footedness	
UF	Verbal learning		Handedness	
NT	Language usage	RT	8003	
	Oral language development			
	Vocabulary building			
	Written language develop-			
	ment			

LAW ENFORCEMENT	(0897)	LEARNING TO LEARN	
RT 2007		USE Set learning	
Crime*			
Juvenile delinquency*		LEAVE OF ABSENCE	(0907)
Police department*		RT 4001	
Probation officer			
LAW SCHOOL	(0898)	LECTURE DEMONSTRATION	(0908)
RT 15028		SN Teaching method	
		RT 2012	
LAWS	(0899)	LECTURE DISCUSSION	(0909)
SN Legal sense		SN Teaching method	
RT 12001		RT 2012	
LAWYER	(0900)	LECTURER	(0910)
RT 1007		SN Academic rank	
		RT 1003	
LAY READER	(0901)	LECTURING	(0911)
RT 1003		SN Teaching method	
LAYOUT	(0902)	RT 2012	
RT 5005			
Style		LEFT HANDEDNESS	(0912)
LEADERSHIP	(0903)	BT Handedness	
RT 7002		RT 2011	
LEARNING	(0904)	LEGAL ADOPTION	(0913)
SN *		UF Adoption	
RT 2015		RT 2011	
Cognition*		LEGAL IMMUNITY	(0914)
Concept formation*		RT 12004	
Conditioning*		Litigation*	
Mental development*			
Stimulus response		LEGAL PROBLEMS	(0915)
relation*		SN *	
Teaching*		RT 12001	
Transfer*		Interpersonal relations	
LEARNING INHIBITION	(0905)	LEGIBILITY	(0916)
NT Proactive inhibition		RT 9002	
Reciprocal inhibition		Penmanship	
Retroactive inhibition			
RT 2015		LEGISLATION	(0917)
		RT 12001	
LEARNING RATE	(0906)	LEISURE LISTENING	(0918)
RT 4001		RT 2019	
Achievement*		Leisure time*	
Slow learner*		Relaxation	

LEISURE READING	(0919)	LEVEL OF DIFFICULTY	(0928)
RT 2019		SN *	
Leisure time*		UF Difficulty	
Relaxation		RT 3002	
		Problems	
LEISURE TIME	(0920)	Task completion*	
RT 4001			
Leisure listening*		LIBERALISM	(0929)
Leisure reading*		RT 7004	
Relaxation			
Rest		LIBRARIAN	(0930)
Study habits*		RT 1007	
		Library science*	
LENGTH	(0921)		
SN Physical property		LIBRARY	(0931)
RT 3001		RT 15027	
Distance			
Duration		LIBRARY CLASSIFICATION	(0932)
Length of service		NT Dewey classification	
		Facet classification	
LENGTH OF SERVICE	(0922)	Library of congress	
RT 4001		classification	
Experience*		Universal decimal	
		classification	
LESSON PLAN	(0923)	RT 2001	
RT 10001		Indexing*	
Class preparation*		Information Service	
LETHARGY		LIBRARY OF CONGRESS CLASSIFICATION	
USE Apathy		BT Library	(0933)
		classification	
LETTERS	(0924)	RT 2001	
SN Alphabetic characters			
RT 16001		LIBRARY SCHOOL	(0934)
		RT 15028	
LEVEL	(0925)		
SN *		LIBRARY SCIENCE	(0935)
RT 3001		RT 17014	
Educational level		Information service	
Income level		Librarian*	
Social class			
		LIBRARY SERVICE	
LEVEL OF COMPLEXITY	(0926)	USE Information service	
UF Complexity			
Simplicity		LICENSES	(0936)
RT 3002		RT 15026	
Task completion*			
		LICENSING	(0937)
LEVEL OF DEVELOPMENT	(0927)	SN Excluding school accredi-	
SN Human		tation and teacher	
RT 8005		certification	
		RT 2007	

LIFE EXPECTANCY	(0938)	LISTENING HABITS	(0949)
RT 8005		SN *	
Demographic data*		RT 2019	
		Auditory comprehension	
LIFE HISTORY	(0939)	Listening ability	
RT 15026			
		LITERACY	(0950)
LIFE INSURANCE	(0940)	UF Illiteracy	
RT 13001		RT 6001	
LIGHT PENS	(0941)	LITERATURE	(0951)
RT 15023		RT 16002	
LIGHTING		LITERATURE COURSES	(0952)
USE Illumination		NT Canadian literature	
		English literature	
LIGHTNESS	(0942)	RT 17012	
SN Visual sense dimension		Poetry*	
UF Darkness		Prose*	
RT 9003			
		LITHOGRAPHY	(0953)
LIMIT	(0943)	RT 17009	
RT 3001			
		LITIGATION	(0954)
LINE GRAPHS	(0944)	NT Supreme court litigation	
RT 15003		RT 2024	
		Legal immunity*	
LINEAR PROGRAM	(0945)	School injury*	
UF Fixed sequence program			
Skinner program		LIVESTOCK	(0955)
RT 10001		RT 15025	
Programmed books			
Programmed instruction*		LOAD	(0956)
Programming*		SN *	
Teaching machine		RT 3001	
		Weighting	
LINQUISTICS	(0946)		
RT 17012		LOANS	(0957)
		SN *	
LIP READING	(0947)	RT 13002	
UF Speech reading			
RT 2019		LOCAL CONTROL	(0958)
Hearing disorder*		SN Autonomy of school district	
		RT 2007	
LISTENING			
USE Auding		LOCALE	
		USE Site	
LISTENING ABILITY	(0948)		
RT 6001		LOCALIZATION	(0959)
Auding*		SN Perceptual	
Auditory comprehension*		RT 2016	
		Sensation	

LOCATION		MACHINE PACING	
USE Site		USE External pacing	
LOGIC	(0960)	MACHINE SCORING	(0971)
RT 17007		BT Scoring	
		RT 2004	
LOGICAL ORGANIZATION	(0961)	MAGNETIC BOARD	(0972)
SN Orderly arrangement		RT 15008	
of ideas			
RT 2016		MAINTENANCE	(0973)
Intelligibility*		SN Of facilities and equipment	
Reasoning*		UF Servicing	
Writing*		RT 2007	
LONG TERM PLANNING	(0962)	Building improvement*	
BT Planning			
RT 2007			
LONGITUDINAL RECORDS	(0963)	MALADJUSTMENT	
RT 15026		USE Social adjustment	
LOUDNESS	(0964)	MALE	(0974)
RT 9004		RT 8004	
LOUDSPEAKER	(0965)	MALFUNCTION	(0975)
SN Audio device		UF Dysfunction	
RT 15012		RT 6005	
LOW INCOME	(0966)	MALNUTRITION	(0976)
RT 12001		UF Undernourished	
		RT 8001	
LOW INTELLIGENCE	(0967)	Food*	
RT 6001		MANAGING	
LOWER CLASS	(0968)	USE Administrating	
RT 12001		MANIC DEPRESSIVE PSYCHOSIS	(0977)
LOYALTY	(0969)	BT Affective psychosis	
RT 7001		RT 7008	
Social interaction		Mental depression*	
Syntality			
LUMINOSITY	(0970)	MANIPULABILITY	(0978)
SN Visual sense dimension		RT 3002	
RT 9003		Manipulating*	
LUNCHROOM		Motor skills	
USE Cafeteria		MANIPULATING	(0979)
LYING		SN Manual task sense	
USE Honesty		RT 2020	
		Manipulability*	
		Motor skills	

MANITOBA	(0980)	RT 15001	
RT 15029		Advertising*	
MANUAL DEXTERITY	(0981)	Films*	
UF Dexterity		Newspapers*	
RT 8003		Radio*	
Motor skills		Television*	
MANUALS	(0982)	MASSED PRACTICE	(0991)
RT 15026		UF Massing	
		BT Practice	
MAP READING	(0983)	RT 2014	
RT 2019		MASSING	
Maps*		USE Massed practice	
MAPS	(0984)	MASTERS DEGREE	(0992)
RT 15003		RT 14002	
Atlas*			
Map reading*		MASTERY	(0993)
MARIONETTE	(0985)	RT 6003	
RT 15017		MATCHING	(0994)
MARITAL STATUS	(0986)	SN Experimental methodology	
SN *		RT 2009	
RT 12002		MATCHING TEST	(0995)
MARKETING	(0987)	RT 2002	
RT 17006		Recognition*	
MARKING (SCHOOL MARK)		MATERIALISM	(0996)
USE Grading (school mark)		RT 7004	
MARK (SCHOOL MARK)		MATERIALS	(0997)
USE Grade (school mark)		SN *	
MARRIED	(0988)	UF Supplies	
RT 12002		RT 15001	
MASKING	(0989)	MATERIALS SELECTION	(0998)
SN Auditory sense only		RT 2004	
RT 9004		Information service*	
Auditory perception		MATHEMATICAL LOGIC	(0999)
Sensory discrimination		UF Symbolic logic	
MASS COMMUNICATIONS		RT 17007	
USE Mass media		MATHEMATICAL SKILLS	(1000)
MASS MEDIA	(0990)	RT 6003	
SN *		MATHEMATICIAN	(1001)
UF Mass communications		RT 1007	

MATHEMATICS	(1002)	MECHANICAL ABILITY	(1010)
NT Algebra		RT 6001	
Calculus		Motor activity*	
Geometry		Motor skills	
Trigonometry		Psychomotor activity*	
RT 17005		Vocational aptitude	
Mathematical logic			
MATRICULATION		MECHANICAL COMPREHENSION	(1011)
USE Admission		RT 2016	
		Motor skills*	
MATRIX	(1003)	MECHANICAL DRAWING	(1012)
RT 10001		RT 17010	
MATURATION		MEDIA	(1013)
USE Physiological development		SN *	
		RT 15001	
MATURITY	(1004)	Multisensory presentation*	
SN Age twenty-one to			
sixty-five		MEDIAN	(1014)
NT Adult		SN Statistical	
Middle Age		RT 3001	
Young adult			
RT 8005		MEDICAL EDUCATION	(1015)
Emotional maturity		SN *	
Physiological development*		RT 17017	
MAZE	(1005)	MEDICAL INTERN	(1016)
RT 15017		BT Resident physician	
		RT 1006	
MEANING	(1006)	MEDICAL SCHOOL	(1017)
RT 11001		RT 15028	
MEANINGFULNESS		MEDICAL TREATMENT	(1018)
USE Significance		UF Treatment (medical)	
MEAN (STATISTICAL)	(1007)	RT 2011	
RT 3001		Drugs*	
		Medicine*	
MEASUREMENTS	(1008)	MEDICINE	(1019)
SN *		RT 15002	
RT 3001		Medical treatment*	
Distance			
Height		MELODY	(1020)
Rate		UF Tune	
Testing		RT 9004	
MECHANIC	(1009)	MEMBERSHIP	
RT 1009		USE Participation	

MEMORIZATION			Mentally handicapped children*
USE	Rote learning		Special education*
MEMORY DRUM		(1021)	
RT	15006		
MEMORY SPAN		(1022)	
RT	2015		
	Retention*		
	Rote learning*		
MENTAL ABILITY			
USE	Intelligence		
MENTAL AGE		(1023)	
RT	6001		
MENTAL DEPRESSION		(1024)	
UF	Depression (mental)		
RT	7001		
	Manic depressive psychosis*		
	Psychotic depressive reaction*		
MENTAL DEVELOPMENT		(1025)	
RT	2022		
	Cognition*		
	Intelligence*		
	Intelligence test*		
	Learning*		
MENTAL DISORDER		(1026)	
NT	Neurosis		
	Psychosis		
RT	7008		
MENTAL HANDICAP		(1027)	
SN	Relating to brain damage		
NT	Agraphia		
	Alexia		
	Athetosis		
	Brain Injury		
	Cerebral palsy		
	Dysgraphia		
	Dyslexia		
	Mental retardation		
	Mongolism		
	Spasticity		
RT	8001		
	Ability		
	Intelligence		
MENTAL HEALTH		(1028)	
RT	7008		
	Affect*		
	Health*		
	Psychiatric social worker*		
	Psychiatry*		
MENTAL HOSPITAL		(1029)	
RT	15028		
MENTAL ILLNESS		(1030)	
SN	*		
RT	7008		
	Functional speech disorders		
	Psychotherapy*		
MENTAL IMAGE		(1031)	
RT	10001		
	Visualization*		
MENTAL RETARDATION		(1032)	
UF	Retardation		
BT	Mental handicap		
RT	8001		
MENTAL TEST			
USE	Intelligence test		
MENTALLY HANDICAPPED CHILDREN			
UF	Retarded children	(1033)	
RT	1002		
	Mental handicap		
	Special education		
MERIT SCHOLARSHIPS		(1034)	
BT	Scholarships		
RT	13002		
MESSAGE		(1035)	
RT	11002		
	Coding*		
	Communicating*		
	Communication theory*		
METEOROLOGY		(1036)	
RT	17015		

METHODOLOGY		MIDDLE AGE	(1049)
USE Research design		SN Age forty-five to sixty-five	
METRONOME	(1037)	BT Maturity	
RT 15013		RT 8005	
METROPOLITAN AREA	(1038)	MIDDLE CLASS	(1050)
RT 15029		RT 12001	
MICE	(1039)	MIDDLE GRADES	
RT 15025		USE Intermediate grades	
MICROCARDS	(1040)	MIGRANCY	
RT 15004		USE Migrant worker	
MICROFICHE	(1041)	MIGRANT WORKER	(1051)
RT 15004		UF Migrancy	
MICROFILM READER	(1042)	Migration	
RT 15006		RT 1009	
Microfilms*		Geographical mobility*	
MICROFILMS	(1043)	Socioeconomic level	
RT 15004		MIGRATION	
Microfilm reader*		USE Migrant worker	
MICROPHONE	(1044)	MINISTER	(1052)
RT 15014		BT Clergyman	
MICROPROJECTOR	(1045)	RT 1005	
RT 15006		MINORITY GROUP	(1053)
MICROSCOPE	(1046)	RT 1001	
RT 15021		Cultural values*	
MID ADOLESCENCE	(1047)	Nationality*	
SN Age fourteen to sixteen		Race*	
BT Adolescence		Religious affiliation*	
RT 8005		Socioeconomic level*	
Senior high school		MIRROR	(1054)
MID CHILDHOOD	(1048)	SN *	
SN Age six to ten		RT 15021	
UF School age		MISBEHAVIOR	
BT Childhood		USE Disruptive behavior	
RT 8005		MISCONDUCT	
Compulsory education		USE Disruptive behavior	
Elementary school		MISSIONARY	(1055)
		RT 1005	

MISTAKE			Syntality	
USE	Error		Temperament	
MOBILITY		(1056)	MORALE	(1065)
SN	Capacity for physical movement or contraction		RT	7001
RT	8003			Self confidence
	Geographical mobility			Syntality
	Motor activity		MORALS	(1066)
	Social mobility		RT	12001
MOCKUP		(1057)	MORES	(1067)
RT	15010		RT	12001
MODALITY			MOTHER	(1068)
USE	Sense mode		RT	12002
MODE		(1058)	MOTION PICTURE CAMERA	(1069)
SN	*		RT	15005
RT	3001		MOTION PICTURE PROJECTOR	(1070)
	Response mode		RT	15006
	Sense mode			
MODELS		(1059)	MOTION PICTURES	
SN	*		USE	Films
RT	15010			
MODE (STATISTICAL)		(1060)	MOTIVATION	(1071)
RT	3001		UF	Discouragement
				Encouragement
				Inducement
MODIFICATION			NT	Extrinsic motivation
USE	Change			Intrinsic motivation
			RT	7005
MONGOLISM		(1061)		Affect*
BT	Mental handicap			Curiosity
RT	8001			Drive (physiological)*
				Enthusiasm*
MONOGRAPHS		(1062)		Habit*
RT	15026			Interest*
MONTHLY		(1063)	MOTOR ACTIVITY	(1072)
RT	4002		SN	*
MOOD		(1064)	UF	Movement
			RT	2020
SN	*			Mechanical ability*
BT	Affect			Motor development*
RT	7001			Motor learning*
	Attitude			Motor skills*
	Mental health			Stance*
	Motivation			
	Personality			

MOTOR CONTROL	(1073)	several different sensory channels
SN *		
RT 2020		RT 2012
MOTOR DEVELOPMENT	(1074)	Intersensory perception*
RT 2022		Media*
Motor activity*		Sense mode*
Motor learning*		
Performance test*		MUNICIPAL LEVEL (1082)
		RT 15029
MOTOR LEARNING	(1075)	MUSCULAR CONTRACTION (1083)
RT 2015		UF Contraction (muscular)
Motor activity*		RT 8003
Motor development*		Muscular coordination*
Motor skills*		
MOTOR SKILLS	(1076)	MUSCULAR COORDINATION (1084)
RT 6003		UF Coordination (muscular)
Manual dexterity*		RT 2020
Mechanical comprehension*		Muscular contraction*
Motor activity*		
Motor learning*		MUSCULAR RELAXATION (1085)
		UF Relaxation (muscular)
MOVEMENT		RT 8003
USE Motor activity		MUSEUM (1086)
		RT 15027
MOVIES		MUSIC (1087)
USE Films		SN As auditory phenomenon
		not as subject matter
MULTIMEDIA PRESENTATION (1077)		RT 9004
SN Teaching method utilizing		Music education*
several media of any type		Musical instruments*
RT 2012		
Automated classroom		MUSIC EDUCATION (1088)
Media		RT 17011
Sense mode		Music*
MULTIPLE CHOICE ITEM (1078)		Music reading*
RT 11003		
MULTIPLE TRACK PROGRAM (1079)		MUSIC READING (1089)
SN Curriculum		NT Sightsinging
BT Track system		RT 2019
RT 10002		Music education*
MULTIPLICATION (1080)		
SN Arithmetical calculation		MUSICAL ABILITY (1090)
RT 17005		RT 6001
		Sightsinging
MULTISENSORY PRESENTATION (1081)		MUSICAL INSTRUMENTS (1091)
SN Teaching method utilizing		NT Brass instruments
		Percussion

	Stringed instruments		NEAR SIGHTEDNESS	
	Woodwinds		USE Myopia	
RT	15024		NEARNESS	
	Instrumental music*		USE Proximity	
	Music*			
MUSICAL INTERPRETATION	(1092)	NEED	(1102)	
RT	2001	RT	7005	
			Drive (Physiological)*	
MUTISM	(1093)	NEGATIVE REINFORCEMENT		
BT	Speech disorder	USE	Negative reward	
RT	8001			
MYOPIA	(1094)	NEGATIVE REWARD	(1103)	
UF	Near sightedness	UF	Negative reinforcement	
BT	Visual handicap		Punishment	
RT	8001	BT	Reinforcement	
		RT	2013	
NARRATION	(1095)		Reinforcer	
SN	Verbal accompaniment	NEGRO	(1104)	
	to visual media	BT	Nonwhite race	
UF	Commentary	RT	8004	
RT	2018			
	Sound track			
NASALITY	(1096)	NEIGHBOURHOOD	(1105)	
SN	Sound dimension	RT	15029	
RT	9004			
NATIONALISM	(1097)	NEIGHBOURHOOD IMPROVEMENT	(1106)	
RT	7004	RT	2021	
			Maintenance	
			Sanitation	
NATIONALITY	(1098)	NEURAL INHIBITION	(1107)	
SN	*	NT	Central inhibition	
RT	12001		Cortical inhibition	
	Ethnic group*	RT	8003	
	Minority group*			
	Race*	NEURAL TRANSMISSION		
	Racial integration*	USE	Conduction	
NATIVE BORN	(1099)	NEUROSIS	(1108)	
RT	12001	BT	Mental disorder)	
		RT	7008	
NATURAL LIGHT	(1100)	NEW BRUNSWICK	(1109)	
BT	Illumination	RT	15029	
RT	9003			
NATURAL SCIENCES	(1101)	NEWFOUNDLAND	(1110)	
SN	*	RT	15029	
RT	17015			

NEWSLETTERS	(1111)	RT	2002	
RT 15026				
NEWSPAPERS	(1112)		NONSENSE SYLLABLES	(1122)
RT 15026			RT 16001	
Mass media*				
NIGHT BLINDNESS	(1113)		NONWHITE RACE	(1123)
BT Blindness		NT	Indian	
RT 8001			Negro	
			Oriental	
		RT	8004	
NIGHT SCHOOL			NORMAL DISTRIBUTION	(1124)
USE Evening classes			RT 3001	
NOISE	(1114)		NORTHWEST TERRITORIES	(1125)
SN Sound			RT 15029	
RT 9004				
Disruptive behavior			NOTATION	(1126)
			RT 16001	
NOMENCLATURE	(1115)		NOTE TAKING	(1127)
RT 16001			RT 2001	
NOMINATING TECHNIQUE	(1116)		Study habits*	
SN Sociometry			Study skills*	
BT Sociometric test				
RT 2002			NOTEBOOKS	(1128)
			RT 15026	
NON ACADEMIC	(1117)		NOUNS	(1129)
SN Courses not leading to			RT 16001	
University entrance				
RT 2010			NOVA SCOTIA	(1130)
			RT 15029	
NON ATTENDANCE			NOVELTY	(1131)
USE Attendance			RT 7005	
NON CHRISTIAN	(1118)			
SN *			NUMBER	
RT 12005			USE Amount	
NON CREDIT COURSES	(1119)			
SN Excluding audit courses			NUMERALS	(1132)
RT 10002			SN Numeric symbols	
NON DIRECTED STUDY			NUMERICAL ABILITY	(1133)
USE Discovery learning			RT 6001	
			Mathematical skills	
NON GRADED CURRICULUM	(1120)			
RT 10002			NUN	(1134)
NON PARAMETRIC TEST	(1121)		RT 1005	
BT Statistical test				

- NURSE (1135)
 NT Practical nurse
 School nurse
 Visiting nurse
 RT 1006
- NURSERY SCHOOL (1136)
 BT Preschool level
 RT 14001
- NURSING (1137)
 RT 17017
 Nurse
- OBEDIENCE
 USE Compliance
- OBJECTIVES
 USE Goal
- OBJECTIVITY (1138)
 RT 7002
- OBLIGATION
 USE Responsibility
- OBSERVATION (1139)
 SN Scrutiny of human behavior
 excluding classroom obser-
 vation and supervisory
 observation
 RT 2005
 Evaluating
- OBSERVED CLASSROOM BEHAVIORS
 SN Of children (1140)
 RT 2023
 Supervisory observation*
- OCCUPATION (1141)
 SN *
 UF Work
 RT 12001
- OCCUPATIONAL THERAPIST (1142)
 RT 1006
- OCCUPATIONAL TRAINING
 USE Vocational education
- OCULAR PURSUIT (1143)
 BT Eye movement
 RT 2020
- OCULAR REGRESSION (1144)
 BT Eye movement
 RT 2020
- OCULIST
 USE Ophthalmologist
- OFFICE (1145)
 SN Place of work
 RT 15027
- OIL PAINTINGS (1146)
 BT Paintings
 RT 15002
- OIL PAINTS (1147)
 RT 15023
- OLD AGE (1148)
 SN Age sixty-five and over
 UF Aged
 RT 8005
- ON THE JOB TRAINING (1149)
 SN Instruction given to
 an employed trainee
 RT 2012
 Apprentice*
 In service training*
 Supervisory observations*
- ONE WAY MIRROR (1150)
 RT 15021
- ONTARIO (1151)
 RT 15029
- OPAQUE PROJECTOR (1152)
 RT 15006
- OPEN CIRCUIT TELEVISION (1153)
 UF OCTV
 RT 15007
- OPERANT CONDITIONING (1154)
 UF Instrumental conditioning
 RT 2013

OPHTHALMOGRAPH (1155)	ORDERABILITY (1165)
SN Camera for photographing eye movements	BT 3002 Organizing Sequence*
RT 15012 Eye movement*	Sorting test
OPHTHALMOLOGIST (1156)	ORGANIZATIONAL CLIMATE (1166)
UF Oculist	RT 7003
BT Physician	
RT 1006	ORGANIZING (1167)
OPHTHALMOLOGY (1157)	SN *
RT 17017	RT 2016 Administrating Planning*
OPINION (1158)	Student organizations Visual organization
UF Viewpoint	
RT 7003 Ideology Political affiliation Religious affiliation	ORIENTAL (1168)
	BT Nonwhite race
	RT 8004
OPINIONNAIRES (1159)	ORIENTATION (1169)
RT 15026	RT 7007
OPPORTUNITY (1160)	ORIGINALITY (1170)
SN *	RT 6001
RT 12004	OUTCOMES
OPTICAL COINCIDENCE CARDS (1161)	USE Result
RT 15003	OUTLINING (1171)
ORAL LANGUAGE DEVELOPMENT (1162)	RT 2001 Skimming* Study habits Study skills*
BT Language development	
RT 2015 Speaking	OUTPUT
ORAL READING (1163)	USE Productivity
BT Reading	OVERACHIEVEMENT (1172)
RT 2019 Reading ability Reading comprehension Speaking	BT Achievement
	RT 6004 Overachiever*
ORAL RESPONSE (1164)	OVERACHIEVER (1173)
BT Verbal response	RT 1002 Ability Motivation Overachievement*
RT 2017	
ORDER	
USE Sequence	

- OVERCORRECTION (1174)
RT 2021
- OVERHEAD PROJECTOR (1175)
RT 15006
- OVERLAYS (1176)
RT 15004
- OVERLEARNING (1177)
SN Learning in which practice continues beyond the point of mastery
RT 2015 Practice*
- OVERPROTECTION (1178)
RT 7003 Anxiety
- OVERTNESS (1179)
RT 9002 Overt response
- PA SYSTEM
USE Public address system
- PACE
USE Pacing
- PACER (1180)
SN Device for controlling presentation rate
RT 15006 Pacing*
- PACING (1181)
UF Instruction rate
Pace
Presentation rate
NT External pacing
Self pacing
RT 4001 Pacer*
Programme instruction*
Programming*
Step size*
Teaching machine*
- PAGE (1182)
RT 16001
- PAIN (1183)
RT 9001
- PAINTING (1184)
SN Art activity
RT 17009 Paintings*
- PAINTINGS (1185)
NT Oil Paintings
Water color paintings
RT 15002 Painting*
- PAIRED COMPARISON TEST (1186)
SN Method of indicating preference for a series of items
RT 2002 Comparing*
Preference*
- PAIRING (1187)
SN Experimental methodology
RT 2009 Matching test
- PAMPHLETS (1188)
RT 15026
- PAPER (1189)
SN Material
RT 15022 Newspaper
- PAPERBACKS (1190)
SN Books
RT 15026
- PARADIGM (1191)
RT 10001
- PARAGRAPH (1192)
RT 16001
- PARALLELOGRAM (1193)
RT 5006
- PARAMETRIC TEST (1194)
BT Statistical test
RT 2002

PARANOIA	(1195)	RT	2023	
BT	Psychosis			
RT	7008			
	Feat*			
PARENT	(1196)			
RT	12002			
	Parent child relations			
	Parental pressures			
PARENT ATTITUDE	(1197)			
RT	7003			
	Parental pressures*			
PARENT CHILD RELATIONS	(1198)			
RT	12003			
	Parental pressures*			
PARENT PARTICIPATION	(1199)			
RT	2023			
PARENT TEACHER ASSOCIATION	(1200)			
SN	Organization			
UF	PTA			
RT	1001			
PARENT TEACHER RELATIONS	(1201)			
RT	12003			
	Parent teacher association			
PARENTAL PRESSURES	(1202)			
RT	12004			
	Parent attitude*			
	Parent child relations*			
PARISH SCHOOL				
USE	Church school			
PARKING FACILITIES	(1203)			
RT	15027			
PAROCHIAL SCHOOL				
USE	Church school			
PART TIME	(1204)			
RT	4002			
	Course load			
PARTICIPATION	(1205)			
SN	*			
UF	Membership			
PASSAGE	(1206)			
SN	Part of a verbal text			
RT	16001			
PASSING				
USE	Promotion			
PASSIVE RESISTANCE	(1207)			
BT	Resistive behavior			
RT	2024			
	Cooperation			
	Docility			
	Hostility			
PARENTS	(1208)			
RT	15026			
PATIENT	(1209)			
RT	1011			
PATTERN	(1210)			
UF	Configuration			
RT	5005			
	Diagrams			
PAUSE	(1211)			
SN	*			
RT	4001			
	Eye pause			
	Relaxation			
	Rest*			
PAY				
USE	Salary			
PEDIATRICIAN	(1212)			
BT	Physician			
RT	1006			
PEER GROUP	(1213)			
RT	1001			
	Social interaction			
PENCILS	(1214)			
RT	15023			
PENITENTIARY				
USE	Prison			

PENMANSHIP	(1215)	PERCUSSION	(1222)
RT 17009		BT Musical instruments	
Writing*		RT 15024	
PENS	(1216)	PERFORMANCE	
SN Writing device		USE Achievement	
RT 15023		PERFORMANCE TEST	(1223)
PENSION		BT Non verbal test	
USE Retirement benefits		RT 2002	
		Motor development*	
PERCENTAGE	(1217)	PERIODICALS	(1224)
SN *		SN *	
RT 3001		RT 15026	
PERCEPTIBILITY	(1218)	PERMANENCE	(1225)
UF Detectability		RT 4001	
NT Audibility		Stability	
Visibility		PERMISSIVENESS	(1226)
RT 9002		RT 7003	
Clarity*		PERSEVERANCE	(1227)
Discrimination		UF Striving	
Exposure time*		RT 7005	
Intelligibility*		PERSONAL HYGIENE	(1228)
Perception*		RT 8001	
PERCEPTION	(1219)	Health practices*	
SN *		PERSONALITY	(1229)
RT 2016		UF Individuality	
Awareness*		RT 7002	
Perceptibility*		Affect*	
Perceptual motor learning*		Personality disorder*	
Perceptual speed*		Personality test*	
Sensation		PERSONALITY DISORDER	(1230)
Sense mode*		NT Personality pattern	
Sensitivity*		disturbance	
Sensory adaptation*		Personality trait	
Stimulus strength*		disturbance	
PERCEPTUAL MOTOR LEARNING	(1220)	Sociopathic personality	
RT 2015		disorder	
Motor response		RT 7008	
Perception*		Personality*	
Perceptual speed*			
PERCEPTUAL SPEED	(1221)		
RT 4001			
Perception*			
Perceptual motor learning*			

PERSONALITY INVENTORY	(1231)	PHONOGRAPH RECORDS	
BT Personality test		USE Disc recordings	
RT 2002			
Personality			
PERSONALITY PATTERN	(1232)	PHOTOGRAPHING	
DISTURBANCE		USE Filming	
BT Personality disorder			
RT 7008		PHOTOGRAPHS	(1242)
		RT 15004	
PERSONALITY SCALE	(1233)	Filming*	
BT Personality test		Photography*	
RT 2002		Still camera*	
Personality			
PERSONALITY TEST	(1234)	PHOTOGRAPHY	(1243)
BT Psychological test		RT 17009	
NT Personality inventory		Filming	
Personality scale		Photographs*	
Projective test			
RT 2002			
Affect		PHASE	(1244)
Emotional disturbance*		RT 16001	
Personality*			
PERSONALITY TRAIT	(1235)	PHYSICAL CONDITION	
DISTURBANCE		USE Physical fitness	
BT Personality disorder			
RT 7008		PHYSICAL EDUCATION	(1245)
		RT 17002	
PERSONNEL	(1236)	Sports*	
RT 1001			
PHILOSOPHY	(1237)	PHYSICAL EXAMINATION	(1246)
SN *		NT Dental examination	
RT 17007		Ear examination	
Ideology		Eye examination	
		RT 2003	
PHILOSOPHY OF EDUCATION	(1238)	Diagnosis*	
RT 17007			
PHONEMES	(1239)	PHYSICAL EXERCISE	(1247)
RT 16001		NT Conditioning exercise	
		RT 2020	
PHONICS	(1240)	Physical fitness*	
RT 17012		Playing*	
Reading			
PHONOGRAPH	(1241)	PHYSICAL FITNESS	(1248)
UF Record player		UF Fitness	
RT 15014		Physical condition	
		RT 8001	
		Exhaustion*	
		Physical exercise*	
		Posture*	
		Sports*	

PHYSICAL HANDICAP	(1249)	PICTURES	(1259)
SN Excluding brain damage		SN *	
NT Hearing disorder		RT 15002	
Speech disorder			
Visual handicap		PIGEONS	(1260)
RT 8001		RT 15025	
Physical therapy*			
Physically handicapped		PITCH	(1261)
children*		SN Sound dimension	
Special education*		RT 9004	
PHYSICAL SCIENCES	(1250)	PLACEMENT TEST	(1262)
SN *		RT 2002	
RT 17015			
PHYSICAL STRENGTH	(1251)	PLAN	
SN Human		USE Planning	
RT 8002			
PHYSICAL THERAPIST	(1252)	PLANNING	(1263)
RT 1006		UF Plan	
		NT Group planning	
		Long term planning	
PHYSICAL THERAPY	(1253)	RT 2007	
RT 2011		Analysis*	
Physical handicap*		Designing*	
		Organizing*	
PHYSICALLY HANDICAPPED	(1254)	PLASTIC	(1264)
CHILDREN		SN Material	
RT 1002		RT 15002	
Physical handicap-			
Special education		PLAY	
		USE Drama	
PHYSICIAN	(1255)		
UF Doctor		PLAY THERAPY	(1265)
NT Clinician		RT 2011	
Ophthalmologist		Emotional disturbance*	
Pediatrician		Role playing*	
Resident physician		Suppression*	
School physician			
RT 1006		PLAYBACK	(1266)
PHYSICIST	(1256)	SN Of a visual or sound	
RT 1007		recording, enabling a	
		person to evaluate or	
PHYSICS	(1257)	react to his own re-	
RT 17015		corded performance	
		RT 2012	
		Counseling*	
PHYSIOLOGICAL DEVELOPMENT	(1258)	PLAYGROUND	(1267)
UF Maturation		RT 15029	
RT 2022		Games	
Maturity*		Sports	
Motor activity			

PLAYING	(1268)	POPULATION SIZE	(1280)
RT 2023		RT 3001	
Physical exercise*		Demographic data*	
Relaxation*			
PLEASURE	(1269)	POSITION	(1281)
RT 9001		SN *	
		RT 5004	
		Angle	
PLUMBER	(1270)	Occupation	
RT 1009		Rank*	
		Sequence*	
PLUMBING	(1271)	Stance	
RT 15020			
POETRY	(1272)	POSTDOCTORAL LEVEL	(1282)
RT 16002		BT Higher education	
Literature courses*		RT 14001	
POLICE DEPARTMENT	(1273)	POSTERS	(1283)
RT 1001		RT 15002	
Law enforcement*			
POLICY	(1274)	POSTGRADUATE LEVEL	
SN *		USE Graduate level	
RT 10001			
Fiscal policy		POSTTESTING	(1284)
		RT 2002	
POLITICAL AFFILIATION	(1275)	POSTURE	(1285)
SN *		SN Physiological	
RT 12005		RT 8002	
Belief*		Muscular coordination	
Ideology*		Physical fitness*	
POLITICS	(1276)	POVERTY	(1286)
SN *		UF Impoverished	
RT 12005		Poor	
		RT 12001	
POLYGRAPH	(1277)	PRACTICAL NURSE	(1287)
RT 15012		BT Nurse	
		RT 1006	
POOR		PRACTICE	(1288)
USE Poverty		UF Drill	
		Exercise	
POPULARITY	(1278)	NT Distributed practice	
RT 7001		RT 2014	
		Overlearning*	
POPULATION	(1279)	Physical exercise	
SN *			
RT 1001		PRACTICE TEACHING	
Population size		USE Student teaching	

PRAGMATISM	(1289)	PRESCHOOL LEVEL	(1297)
RT 7004		NT Kindergarten	
PRAISE		Nursery school	
USE Approval		RT 14001	
PREADOLESCENCE		Compensatory education	
USE Late childhood		Early childhood	
PRECISION		Preschool education*	
USE Accuracy			
PREDISPOSITION		PRESENTATION RATE	
USE Disposition		USE Pacing	
PREFERENCE	(1290)	PRESSEY PUNCHBOARD	(1298)
RT 7003		UF Punchboard tutor	
Nominating technique		BT Teaching machine	
Paired comparison test*		RT 15009	
Social interaction			
SOCIOGRAMS		PRESSURE GROUP	(1299)
PREFIXES	(1291)	RT 1001	
RT 16001		PRESSURE SENSE	(1300)
PREGNANCY	(1292)	BT Cutaneous sense	
RT 8001		RT 9001	
PREJUDICE	(1293)	PRESSURES	(1301)
UF Bias		SN *	
Intolerance		RT 12Q04	
NT Racial discrimination		Pressure sense	
RT 7003		PRESTIGE	(1302)
PREPARATION	(1294)	RT 7001	
SN *		PRETESTING	(1303)
RT 2014		RT 2002	
Prior knowledge		PRICE	
Set		USE Cost	
PREPOSITIONS	(1295)	PRICE INDEX	(1304)
RT 16001		RT 13001	
PRESCHOOL CHILD		PRIEST	(1305)
USE Early childhood		BT Clergyman	
PRESCHOOL EDUCATION	(1296)	RT 1005	
SN *		PRIMACY	(1306)
RT 2012		SN Order of occurrence	
Cultural deprivation		RT 4001	
Early childhood		PRIMARY GRADES	
Preschool level*		USE Primary school	

PRIMARY SCHOOL	(1308)	Juvenile probation*
UF Primary grades		
BT Elementary school		PROBLEM SOLVING (1321)
NT Grade one		RT 2016
Grade three		Discovery learning*
Grade two		
RT 14001		PROBLEMS (1322)
PRIMERS	(1309)	SN *
SN Books		RT 12001
RT 15026		Conflict
		Problem solving
PRINCE EDWARD ISLAND	(1310)	Puzzles
RT 15029		PRODUCTIVITY (1323)
PRINCIPAL	(1311)	UF Output
RT 1004		RT 6004
		Efficiency*
PRINTED MATERIALS	(1312)	PROFESSIONAL ASSOCIATION (1324)
SN *		UF Professional society
RT 15026		RT 1001
PRIOR KNOWLEDGE	(1313)	PROFESSIONAL ATTITUDE (1325)
UF Foreknowledge		RT 7003
RT 11002		PROFESSIONAL MEETING (1326)
PRIORITY	(1314)	UF Conference (professional meeting*)
RT 4001		Symposium
PRISON	(1315)	RT 2018
UF Jail		PROFESSIONAL SOCIETY
Penitentiary		USE Professional association
RT 15028		PROFESSOR (1327)
PRISONER	(1316)	RT 1003
RT 1011		PROFICIENCY
PRIVATE SCHOOL	(1317)	USE Skill
NT Church school		PROFILES (1328)
RT 15028		SN Document
PROACTIVE INHIBITION	(1318)	RT 15026
BT Learning inhibition		PROGNOSTIC TEST (1329)
RT 2015		RT 2002
PROBATION	(1319)	PROGRAM (1330)
SN *		SN *
RT 12004		RT 1001
PROBATION OFFICER	(1320)	Curriculum
RT 1005		Financial aid
Juvenile delinquency		

- PROGRAMMED BOOKS (1331)
 UF Programmed text
 NT Scrambled books
 RT 15026
 Branching program*
 Programmed instruction*
 Programming*
 Teaching machine*
- PROGRAMMED INSTRUCTION (1332)
 UF Autoinstruction
 Self instruction
 RT 2012
 Branching program*
 Instructional test*
 Linear program*
 Pacing*
 Programmed books*
 Programming*
 Prompting*
 Response mode*
 Self scoring*
 Step size*
 Teaching machine*
- PROGRAMMED TEST
 USE Programmed books
- PROGRAMMER (1333)
 RT 1007
- PROGRAMMING (1334)
 SN The process of
 constructing
 Programmed materials
 RT 2001
 Branching program*
 Computer programming
 Linear program*
 Pacing*
 Programmed books*
 Programmed instruction*
 Response mode*
 Step size*
 Teaching machine*
- PROGRESSIVISM (1335)
 RT 7004
- PROJECTION (1336)
 SN Psychological
- RT 7002
 Eccentric projection
- PROJECTION SCREEN (1337)
 RT 15008
- PROJECTIVE TEST (1338)
 BT Personality test
 RT 2002
 Personality
- PROJECTOR (1339)
 SN *
 RT 15006
- PROMOTION (1340)
 UF Advancement
 Passing
 RT 6004
- PROMPTING (1341)
 UF Anticipation method
 Cluing
 Cueing
 RT 2013
 Conditioning*
 Programmed instruction*
- PRONENESS (1342)
 SN *
 UF Susceptibility
 RT 7006
- PRONOUNS (1343)
 RT 16001
- PRONUNCIATION (1344)
 RT 9004
 Speaking*
- PROPAGANDA (1345)
 RT 2018
 Attitude
 Attitude change
 Credibility
 Mass media
- PROPENSITY
 USE Disposition

PROPERTY		Mental health*	
USE Real estate		Psychotherapy	
PROPERTY DAMAGE	(1346)	PSYCHIATRY	(1357)
SN Excluding vandalism		RT 17017	
RT 2024		Mental health*	
Insurance		Psychotherapy	
PROPORTION		PSYCHOLOGICAL TEST	(1358)
USE Symmetry		NT Attitude scale	
		Intelligence test	
PROSE	(1347)	Interest test	
RT 16002		Personality test	
Literature courses*		RT 2002	
Writing*			
PROTECTIVENESS	(1348)	PSYCHOLOGIST	(1359)
RT 7003		NT School psychologist	
Fear		RT 1005	
		Mental health	
PROTEST	(1349)	PSYCHOLOGY	(1360)
BT Resistive behavior		RT 17017	
RT 2024			
Cooperation		PSYCHOMOTOR ACTIVITY	(1361)
Hostility		SN *	
		RT 2020	
PROTESTANT	(1350)	Mechanical ability*	
RT 12005		Motor skills	
PROVINCIAL LEVEL	(1351)	PSYCHOSIS	(1362)
RT 15029		BT Mental disorder	
		NT Affective psychosis	
PROVINCIAL UNIONS	(1352)	Paranoia	
RT 15028		Schizophrenia	
		RT 7008	
PROVISIONAL CERTIFICATES	(1353)	PSYCHOTHERAPY	(1363)
RT 15026		RT 2011	
PROXIMITY	(1354)	Mental illness*	
UF Closeness		Psychiatrist*	
Nearness			
RT 5004		PSYCHOTIC DEPRESSIVE	(1364)
PSYCHIATRIC SOCIAL WORKER	(1355)	REACTION	
BT Social worker		BT Affective psychosis	
RT 1005		RT 7008	
Mental health*		Mental depression*	
Social work			
PSYCHIATRIST	(1356)	PTA	
RT 1006		USE Parent teacher association	

PUBERTY		PURCHASING	(1374)
USE Early adolescence		UF Buying	
		RT 2007	
PUBLIC ADDRESS SYSTEM	(1365)	PURPOSE	
UF PA System		USE Goal	
RT 15014			
PUBLIC RELATIONS	(1366)	PUZZLES	(1375)
RT 2018		SN *	
Attitude		RT 15017	
Attitude change			
School community relations		QUALIFICATIONS	(1376)
		UF Eligibility	
PUBLIC SCHOOL	(1367)	RT 6001	
RT 12028		Aptitude	
		Experience	
PUBLICATIONS	(1368)	Job specifications	
SN *		Requirements*	
RT 15026		Skill	
Publishing*			
		QUALITY	(1377)
PUBLISHING	(1369)	SN *	
RT 2018		RT 3001	
Mass media			
Publications*		QUANTITY	
		USE Amount	
PULLTAB DEVICE	(1370)		
BT Teaching machine		QUARTER SYSTEM	(1378)
RT 15009		RT 4002	
PUNCHBOARD TUTOR		QUEBEC	(1379)
USE Pressey punchboard		RT 15029	
PUNCHED CARDS	(1371)	QUESTION ASKING	
UF IBM cards		USE Inquiry method	
RT 15003			
PUNCTUATION	(1372)	QUESTIONNAIRES	(1380)
RT 17012		RT 15026	
PUNISHMENT		QUESTIONS	(1381)
USE Negative reward		RT 16001	
PUNISHMENT (DISCIPLINE)		RABBI	(1382)
USE Disciplining		BT Clergyman	
		RT 1005	
PUPIL		RACE	(1383)
USE Student		SN *	
		RT 8004	
PUPPET	(1373)	Ethnic group*	
SN Doll		Minority group*	
RT 15017		Nationality*	

Race relations*		RATE	(1393)
Racial integration*		SN *	
		RT 4001	
RACE RELATIONS	(1384)	Attrition rate	
RT 12003		Error rate	
Race*			
Racial discrimination*		RATING	(1394)
Racial integration*		RT 2004	
RACIAL DISCRIMINATION	(1385)		
BT Prejudice		RATIO	(1395)
RT 7003		SN *	
Race relations*		RT 3001	
Racial segregation*			
RACIAL INTEGRATION	(1386)	RATIONALISM	(1396)
UF Desegregation		RT 7004	
Integration (racial)			
RT 2009		RATS	(1397)
Ethnic group*		RT 15025	
Nationality*			
Race*		REACTION	(1398)
Race relations*		SN *	
		RT 2017	
		Attitude	
		Reaction time	
RACIAL SEGREGATION	(1387)		
UF Segregation (racial)		REACTION TIME	(1399)
RT 2009		RT 4001	
Ethnic group			
Nationality		READABILITY	(1400)
Race		SN Judgment based on pleasure.	
Racial discrimination*		Interest or difficulty	
		RT 9002	
RADICALISM	(1388)	Graded readers*	
RT 7004			
RADIO	(1389)	READERS	(1401)
NT Commercial radio		SN Textbook	
Educational radio		RT 15026	
RT 15014			
Mass media*		READINESS	(1402)
		SN *	
RANGE	(1390)	RT 7007	
RT 3001			
RANK	(1391)	READING	(1403)
SN *		NT Oral reading	
RT 3001		Silent reading	
Position*		RT 2019	
		Braille	
		Eye movement*	
		Eye span*	
RANK ORDER	(1392)	Language development*	
RT 3001		Reading ability*	

Reading comprehension*		
Reading rate*		
Reading readiness*		
Vision		
Visual handicap		
Work discrimination*		
READING ABILITY	(1404)	
RT 6001		
Dyslexia*		
Reading*		
Reading comprehension*		
Reading habits*		
Reading rate*		
Reading readiness*		
Word discrimination*		
READING CLINIC	(1405)	
RT 15028		
Reading ability		
Remedial teaching		
READING COMPREHENSION	(1406)	
RT 2016		
Reading*		
Reading ability*		
Reading habits*		
READING HABITS	(1407)	
SN *		
RT 2019		
Reading ability*		
Reading comprehension*		
Reading rate*		
READING RATE	(1408)	
RT 4001		
Reading*		
Reading ability*		
Reading habits*		
READING RATE ACCELERATOR		
USE Controlled reader		
READING RATE CONTROLLER		
USE Controlled reader		
READING READINESS	(1409)	
RT 7007		
Reading*		
Reading ability*		
READING VOCABULARY	(1410)	
BT Vocabulary		
RT 16001		
REAL ESTATE	(1411)	
UF Property		
RT 13001		
REASONING	(1412)	
SN *		
RT 2016		
Logical organization*		
Reasoning ability*		
REASONING ABILITY	(1413)	
RT 6001		
Reasoning*		
RECALL	(1414)	
BT Remembering		
RT 2015		
RECENCY	(1415)	
SN Order of occurrence		
RT 4001		
RECESS	(1416)	
SN Break in the school day		
RT 4001		
Relaxation		
Rest		
RECIPROCAL INHIBITION	(1417)	
BT Learning inhibition		
RT 2015		
RECITATION	(1418)	
SN Teaching method		
RT 2012		
Speaking		
RECOGNITION	(1419)	
BT Remembering		
RT 2015		
Awards		
Matching test*		
Praise		
RECORD PLAYER		
USE Phonograph		

RECORDING (1420)

SN Process of audia recording
only
RT 2006
Tape recordings*

RECORDINGS (SOUND) (1421)

NT Disc recordings
Tape recordings
Wire recordings
RT 15014

RECOVERY

USE Convalescence

RECREATIONAL FACILITIES (1422)

SN *
RT 15027
Relaxation*

RECUITING (1423)

RT 2010
Teacher selection*

RECTANGLE (1424)

RT 5006

REDUCTION

USE Decrease

REFERENCE BOOKS (1425)

RT 15026

REFERRAL (1426)

SN Act of sending someone
to a person or agency
for help
RT 2011

REFORMATORY (1427)

RT 15028

REGULARITY (1428)

RT 4001
Stability

REGULATING

USE Controlling

REGULATIONS

USE Rules

REHABILITATION (1429)

SN Of the handicapped
RT 2011
Convalescence*
Mental handicap
Physical handicap

REINFORCEMENT (1430)

UF Confirmation
NT Negative reward
Reward
RT 2013
Feedback*
Knowledge of results*
Reinforcers*
Teaching machine*

REINFORCERS (1431)

SN *
RT 15001
Reinforcement*
Reward*

REINSTATEMENT (1432)

RT 2010

REJECTION (1433)

SN General attitude of one
person toward another
RT 7003

RELATION

USE Relationship

RELATIONSHIP (1434)

SN *
UF Relation
RT 5001
Balance
Interpersonal relations
Space relations

RELAXATION (1435)

SN Recreational sense
RT 8003
Leisure time
Playing*
Recreational facilities*

RELAXATION (MUSCULAR)

USE Muscular relaxation

RELEASED TIME	(1436)	REMEDIAL TEACHING	(1443)
RT 4002		UF Remediation	
RELIABILITY	(1437)	RT 2012	
SN Personal trait		Achievement*	
UF Dependability		Remedial reading specialist*	
RT 7006		REMIATION	
Loyalty		USE Remedial teaching	
Test reliability		REMEMBERING	(1444)
RELIEF	(1438)	NT Recall	
SN Government living allowance		Recognition	
BT Financial aid		RT 2015	
RT 13002		Memory span	
RELIEF TEACHER		REMODELING	
USE Substitute teacher		USE Building improvement	
RELIGION	(1439)	RENTING	(1445)
SN *		RT 2007	
RT 12005		REPAIRING	(1446)
RELIGIOUS AFFILIATION	(1440)	RT 2007	
SN *		REPEATABILITY	(1447)
RT 12005		RT 3002	
Belief*		Rote learning	
Minority group*		Speaking	
RELIGIOUS WORKER	(1441)	REPEATER	(1448)
RT 1005		SN Student	
RELOCATING		RT 1002	
USE Geographical mobility		Failure*	
RELUCTANCE		REPETITION	(1449)
USE Hesitance		RT 2014	
REMEDIAL ENGLISH		REPORTS	(1450)
USE Remedial teaching - English		SN *	
REMEDIAL READING		RT 15026	
USE Remedial teaching - Reading		REPRESSION	(1451)
REMEDIAL READING SPECIALIST (1442)		SN Ego defense	
RT 1003		RT 7002	
Reading		REPRODUCIBILITY	(1452)
Remedial teaching*		RT 3002	
		REPROOF	
		USE Disapproval	

REQUIRED COURSES	(1453)	RESOURCEFULNESS	(1462)
RT 10002		UF Ingenuity	
		Inventiveness	
REQUIREMENTS	(1454)	RT 6001	
RT 12004			
Experience		RESPECT	(1463)
Job specifications		RT 7003	
Qualifications*			
Required courses		RESPONSE	(1464)
		SN *	
RESEARCH ASSISTANT	(1455)	UF Answer	
RT 1003		RT 2017	
		Acceptance	
RESEARCH DESIGN	(1456)	Apathy	
UF Methodology		Classroom participation	
RT 10001		Enthusiasm	
		Feedback	
RESIDENCE	(1457)		
UF Home		RESPONSE DEVICE	(1465)
RT 15027		SN *	
Home environment		RT 15016	
RESIDENT PHYSICIAN	(1458)	RESPONSE GENERALIZATION	(1466)
BT Physician		RT 2013	
NT Medical intern			
RT 1006		RESPONSE MODE	(1467)
		RT 2017	
RESIGNING	(1459)	Programmed instruction*	
SN Excluding retiring		Programming*	
RT 2010		Teaching machine*	
Attrition rate*		Test item*	
Teacher administration			
relations*		RESPONSIBILITY	(1468)
		UF Obligation	
RESISTANCE		RT 12004	
USE Resistive behavior		Reliability	
RESISTIVE BEHAVIOR	(1460)	RESPONSIVENESS	(1469)
UF Resistance		RT 7006	
NT Civil disobedience		Alertness*	
Passive resistance		Expressiveness*	
Protest		Sensitivity*	
RT 2024			
Cooperation*		REST	(1470)
Docility*		SN Physiological state	
Hostility*		RT 8003	
		Pause*	
RESOURCE PERSON	(1461)		
RT 1005		RESTIVENESS	(1471)
		RT 8003	

RESTRICTIONS	(1472)	BT	Vocational education	
RT 12001		RT	2012	
Freedom*			Automation*	
RESULT	(1473)	RETROACTIVE INHIBITION		(1481)
SN *		BT	Learning inhibition	
UF Outcomes		RT	2015	
RT 6004				
RESUMES	(1474)	REWARD		(1482)
SN Document		BT	Reinforcement	
RT 15026		RT	2013	
			Reinforcers*	
RETARDATION		REWRITING		(1483)
USE Mental retardation		RT	2019	
			Writing*	
RETARDED CHILDREN		RHYTHM		(1484)
USE Mentally handicapped		SN	Sound dimension	
children		RT	4001	
			Tempo*	
RETENTION	(1475)	RIGHT HANDEDNESS		(1485)
SN Memory		BT	Handedness	
RT 2015		RT	8003	
Memory span*				
RETINAL IMAGE	(1476)	RIGHTS		(1486)
UF Visual image		SN *		
RT 9003		RT	12004	
Mental image				
Visual angle*		RIGIDITY		(1487)
Visual perception*		SN	Relative inability to	
Visuals			change ones action or	
			attitude	
RETIREMENT	(1477)	RT	7003	
SN Occupational		RIOTING		(1488)
RT 2010		BT	Antisocial behavior	
Retirement benefits*		RT	2024	
Retirement education*			Hostility	
RETIREMENT BENEFITS	(1478)	RIVALRY		
UF Pensions		USE	Competition	
RT 13001				
Retirement*		ROLE CHANGE		(1489)
		RT	2023	
RETIREMENT EDUCATION	(1479)		Interpersonal relations	
RT 2012			Role playing*	
Retirement*				
RETRAINING	(1480)			
SN Training for a change				
in occupation				

ROLE PLAYING	(1490)	Income level	
RT 2023		Socioeconomic level	
Play therapy*			
Psychotherapy		SALARY SCHEDULES	(1502)
Role change*		RT 13001	
ROOM DIVIDERS	(1491)	SALES	
RT 15020		USE Selling	
ROOMS	(1492)	SALESPERSON	(1503)
SN *		RT 1008	
RT 15027			
ROTE LEARNING	(1493)	SAMPLE SIZE	(1504)
UF Memorization		RT 3001	
RT 2015		Sampling (Statistical)*	
Memory span*			
RUGBY	(1494)	SAMPLING (STATISTICAL)	(1505)
BT Sports		RT 2004	
RT 17001		Sample size	
RULEG SYSTEM	(1495)	SANITATION	(1506)
RT 10001		RT 2007	
Programmed books		Health	
Programmed instruction		SASKATCHEWAN	(1507)
Programming		RT 15029	
Teaching machine		SATISFACTION	(1508)
RULES	(1496)	UF Gratification	
UF Regulations		RT 7001	
RT 12001		Drive (Physiological)	
Controlling*		SCALE MODEL	(1509)
RUNNING	(1497)	RT 15010	
RT 2020		SCATTERGRAMS	(1510)
Sports		RT 15003	
RURAL AREA	(1498)	SCHEDULE	
RT 15029		USE Scheduling	
RUSSIAN (LANGUAGE)	(1499)	SCHEDULING	(1511)
RT 17013		UF Schedule	
SAFETY	(1500)	RT 2007	
SN *		SCHIZOPHRENIA	(1512)
RT 12004		BT Psychosis	
SALARY	(1501)	RT 7008	
UF Pay			
Wages			
RT 13001			

SCHOLARSHIPS (1513)	SCHOOL NURSE (1523)
NT Athletic scholarships	BT Nurse
Merit scholarships	RT 1006
RT 13002	
SCHOLASTIC APTITUDE	SCHOOL OF EDUCATION (1524)
USE Academic aptitude	RT 15028
SCHOLASTIC PROBATION (1514)	SCHOOL PHYSICIAN (1525)
RT 12004	BT Physician
Achievement*	RT 1006
Student suspension*	
SCHOOL (1515)	SCHOOL PSYCHOLOGIST (1526)
SN *	BT Psychologist
RT 15028	RT 1005
	Counseling*
	Counselor*
SCHOOL AGE	SCHOOL SIZE
USE Mid childhood	USE Enrollment size
SCHOOL BOARD	SCHOOL SOCIAL WORKER (1527)
USE Board of education	BT Social worker
	RT 1005
SCHOOL BUS (1516)	Social work
RT 15018	
SCHOOL BUS DRIVER (1517)	SCHOOL SUPERINTENDENT (1528)
RT 1009	RT 1004
SCHOOL COMMUNITY RELATIONS (1518)	SCHOOL TEACHER
RT 12003	USE Teacher
Public relations*	
SCHOOL CONSTRUCTION (1519)	SCHOOL YEAR (1529)
UF Construction (school)	RT 4002
RT 2007	
SCHOOL DISTRICT (1520)	SCIENCE (1530)
RT 15029	SN *
Districting*	RT 17015
	Mathematics
SCHOOL INJURY (1521)	SCIENTIST (1531)
SN Injuries to students	SN *
while on school property	RT 1007
RT 8001	
Accident prevention*	SCOPE (1532)
Litigation*	UF Comprehensiveness
	Coverage
	RT 3001
SCHOOL LUNCH PROGRAM (1522)	SCORE (1533)
RT 13002	RT 3001
	Achievement*

SCORING	(1534)	SEGREGATION (RACIAL)	
NT Machine scoring		USE Racial segregation	
RT 2004		SELECTION	(1545)
Grading (school mark)*		SN *	
SCRAMBLED BOOKS	(1535)	RT 2004	
BT Programmed books		SELF ASSURANCE	(1546)
RT 15026		UF Confidence	
SCREENING	(1536)	RT 7002	
SN Techniques of preliminary		SELF CONCEPT	(1547)
personnel selection		RT 7002	
RT 2004		SELF CONTAINED CLASS	(1548)
Interviewing*		RT 10002	
SCULPTURE	(1537)	SELF CONTROL	(1549)
RT 15010		RT 7008	
SEARCHING BEHAVIOR	(1538)	SELF DIRECTED STUDY	
SN Problem solving		USE Discovery learning	
RT 2016		SELF DISCIPLINE	(1550)
Discovery learning		RT 7005	
SEATING ARRANGEMENT	(1539)	SELF ESTEEM	
RT 5005		USE Self respect	
SECOND LANGUAGE LEARNING	(1540)	SELF INSTRUCTION	
RT 2015		USE Programmed instruction	
Foreign born		SELF PACING	(1551)
Foreign languages*		BT Pacing	
SECONDARY SCHOOL	(1541)	RT 4001	
NT Junior high school		SELF RATING	(1552)
Senior high school		RT 2004	
RT 14001		SELF RELIANCE	(1553)
SECRETARIAL SCIENCE	(1542)	RT 7002	
SN *		SELF RESPECT	(1554)
RT 17003		UF Self esteem	
Secretary		RT 7002	
SECRETARY	(1543)	SELF SCORING	(1555)
RT 1008		BT Scoring	
SECURITY	(1544)	RT 2004	
RT 7001		Knowledge of results*	
Trust*		Programmed instruction*	
SEEING			
USE Vision			

SELF TUTOR
USE Teaching machine

SELLING (1556)
UF Sales
RT 2007
Finance

SEMESTER SYSTEM (1557)
RT 4002

SEMINARY (1558)
RT 15028

SENILITY (1559)
RT 8001
Old age

SENIOR (1560)
SN College
BT Undergraduate level
RT 14001

SENIOR HIGH SCHOOL (1561)
UF High school
BT Secondary school
NT Grade eleven
Grade ten
Grade twelve
RT 14001
Late adolescence
Mid adolescence

SENIOR HIGH SCHOOL GRADUATE (1562)
SN Use only if a variable
in the population
RT 14003

SENSATION (1563)
SN *
UF Sense datum
Sense impression
RT 9001
Color
Retinal image
Sensitivity*
Sound

SENSE
USE Sense mode

SENSE DATUM
USE Sensation

SENSE IMPRESSION
USE Sensation

SENSE MODALITY
USE Sense mode

SENSE MODE (1564)
SN *
UF Modality
Sense
Sense Modality
RT 9001
Multisensory presentation*
Perceptibility
Perception*
Sensory adaptation*
Sensory discrimination*

SENSING (1565)
SN *
RT 9001
Eccentric projection
Perceptibility
Perception
Retinal image
Sensory discrimination

SENSITIVITY (1566)
SN Physiological
UF Excitability
RT 8003
Affect tolerance
Affectivity
Perception*
Responsiveness*
Sensation*
Sense mode
Threshold*

SENSORY ADAPTATION (1567)
RT 2016
Perception*
Sense mode*

SENSORY DISCRIMINATION (1568)
SN *
RT 2017
Discriminability
Sense mode*

SENTENCE	(1569)	SEX DESIRE	(1579)
SN Linguistic unit		RT 8003	
RT 16001		Sex education	
		Sexual inversion	
SEPARATED	(1570)	SEX DIFFERENCES	(1580)
SN Marital sense		RT 5003	
RT 12002		Sex interests*	
Broken home*			
SEQUENCE	(1571)	SEX EDUCATION	(1581)
SN *		RT 17002	
UF Order			
RT 4001		SEX INTERESTS	(1582)
Arrangement*		RT 8003	
Orderability*		Sex differences*	
Position*			
SERIAL LEARNING	(1572)	SEXUAL INVERSION	(1583)
RT 2015		NT Homosexuality	
		RT 8004	
		Emotional disturbance	
SERVICING		SHAME	(1584)
USE Maintenance		RT 7002	
SESSION	(1573)	SHAPE	(1585)
SN *		SN *	
RT 4002		UF Form	
		RT 5006	
SET	(1574)	SHOCK	(1586)
RT 7007		SN Physiological	
Habit*		RT 8003	
Set learning*			
Warm up			
SET LEARNING	(1575)	SHOP	(1587)
UF Learning to learn		SN Mechanics woodworking	
RT 2015		RT 15027	
Set*			
SETTLEMENT HOUSE	(1576)	SHORT STORY	(1588)
UF Social settlement		RT 16002	
RT 15028			
SEWING	(1577)	SHORTAGE	
RT 17018		USE Availability	
		SHORTENING	
		USE Decrease	
SEX	(1578)	SHORTHAND	(1589)
SN *		RT 17003	
RT 8004			
Sex desire			
Sex differences			
Sex education			

- SHOW AND TELL (1590)
RT 2018
Social interaction
- SIBLING (1591)
RT 12002
- SIBLING RIVALRY (1592)
RT 2023
Ascendance*
- SICKNESS
USE Illness
- SIGHT
USE Vision
- SIGHTSINGING (1593)
BT Music reading
RT 2019
Music education
Singing
Voice (Music)*
- SIGNIFICANCE (1594)
SN *
Uf Importance
Meaningfulness
RT 11001
Dominance
Immediacy*
Significance level
Usefulness
- SIGNIFICANCE LEVEL (1595)
RT 3001
- SILENT READING (1596)
BT Reading
NT Skimming
RT 2019
Reading ability
Reading comprehension
Reading rate
- SILHOUETTES (1597)
RT 15002
- SIMILARITY (1598)
SN *
RT Discriminability
Sensory discrimination
- SIMPLICITY
USE Level of complexity
- SIMULATION (1599)
SN Teaching method
RT 2012
- SIMULATOR (1600)
RT 15010
- SIMULTANEITY (1601)
RT 4001
Multisensory presentation
- SISTER (1602)
RT 12002
- SITE (1603)
SN *
UF Locale
Location
RT 15029
- SIZE (1604)
SN *
RT 3001
Step size
- SKETCHES
USE Drawings
- SKILL (1605)
SN *
UF Competence
Excellence
Expertness
Proficiency
RT 6003
Ability*
Aptitude*
Individual differences*
- SKIMMING (1606)
SN Reading technique
BT Silent reading
RT 2019
Outlining*
Study skills*
- SKINNER DEVICE
USE Linear program

SKIPPING			Sociability	
USE Acceleration			Social aptitude	
			Social interaction	
SLEEP	(1607)			
RT 8003		SOCIAL ACCEPTABILITY	(1619)	
		RT 12001		
SLEEP LEARNING	(1608)		Antisocial behavior	
RT 2015			Social interaction*	
			Social pressures*	
SLIDE PROJECTOR	(1609)			
RT 15006		SOCIAL ADAPTATION		
		USE Social adjustment		
SLIDE RULE	(1610)			
RT 15015		SOCIAL ADJUSTMENT	(1620)	
		UF Maladjustment		
SLIDES	(1611)		Social adaptation	
RT 15004		RT 2023		
			Sociability	
SLOW LEARNER	(1612)		Social acceptability	
RT 1002			Social aptitude	
Intelligence				
Learning rate*		SOCIAL APTITUDE	(1621)	
Remedial teaching		RT 6002		
			Interpersonal relations*	
SLUMS	(1613)		Personality	
RT 15029			Sociability*	
Urban renewal*			Social interaction*	
SMALL SCHOOL	(1614)	SOCIAL BEHAVIOR		
RT 15028		USE Social interaction		
Enrollment size*				
		SOCIAL CHANGE	(1622)	
SMELL	(1615)	SN Social conditions		
SN Olfactory sense mode		RT 2021		
RT 9001			Cultural values*	
			Social climate*	
SOCCER	(1616)		Social trend*	
BT Sports			Urbanization*	
RT 17001				
		SOCIAL CLASS	(1623)	
SOCIABILITY	(1617)	SN *		
UF Gregariousness		RT 12001		
RT 7001				
Conflict		SOCIAL CLIMATE	(1624)	
Social aptitude*		SN *		
Socialization*		RT 12003		
Student organizations*			Social change*	
SOCIAL ABILITY	(1618)	SOCIAL CONFLICT		
RT 6001		USE Conflict		
Interpersonal relations				

- SOCIAL CONSCIOUSNESS (1625)
RT 7007
Socialization*
- SOCIAL DEVELOPMENT
USE Socialization
- SOCIAL DIFFERENCES (1626)
RT 5003
Conflict*
Interpersonal relations*
Social distance*
Socioeconomic level*
- SOCIAL DISTANCE (1627)
SN Relative accessibility
of one person or group
to another
RT 5004
Social differences*
Social mobility
Socioeconomic level*
- SOCIAL INHIBITION (1628)
RT 7001
Interpersonal relations
Social ability
Social interaction
- SOCIAL INTERACTION (1629)
UF Social behavior
RT 2023
Emotional stability*
Interpersonal relations*
Sociability
Social acceptability*
Social aptitude*
Sociograms*
Student organizations*
- SOCIAL LEARNING
USE Socialization
- SOCIAL MOBILITY (1630)
NT Horizontal social mobility
Vertical social mobility
RT 12001
- SOCIAL PERCEPTION
USE Socialization
- SOCIAL PRESSURES (1631)
RT 12004
Conflict*
Social acceptability*
- SOCIAL PROBLEMS (1632)
SN *
RT 12001
Conflict
Interpersonal relations*
Prejudice
- SOCIAL SCIENCES (1633)
SN *
RT 17014
- SOCIAL SECURITY (1634)
RT 13001
- SOCIAL SERVICE
USE Social work
- SOCIAL SETTLEMENT
USE Settlement house
- SOCIAL STUDIES (1635)
RT 17014
- SOCIAL TREND (1636)
RT 12001
Social change*
- SOCIAL WORK (1637)
UF Social service
Welfare service
RT 2011
Social worker*
- SOCIAL WORKER (1638)
UF Case worker
NT Psychiatric social worker
School social worker
RT 1005
Social work*
- SOCIALISM (1639)
RT 7004
- SOCIALIZATION (1640)
SN Acquiring sensitivity to

- social stimuli
 UF Social development
 Social learning
 Social perception
 RT 2023
 Interpersonal relations
 Sociability*
 Social consciousness*
- SOCIALIZING (1641)
 SN Mingling freely with
 others
 RT 2023
 Sociability
- SOCIOECONOMIC BACKGROUND (1642)
 SN As contrasted with
 a present status
 RT 12001
- SOCIOECONOMIC LEVEL (1643)
 SN *
 RT 12001
 Blue collar worker*
 Minority group*
 Social differences*
 Social distance*
 White collar worker*
- SOCIOGRAMS (1644)
 RT 15003
 Social interaction*
 Sociometric test*
- SOCIOLOGIST (1645)
 RT 1007
- SOCIOLOGY (1646)
 RT 17014
- SOCIOMETRIC TECHNIQUE
 USE Sociometric test
- SOCIOMETRIC TEST (1647)
 UF Sociometric technique
 NT Nominating technique
 RT 2002
 Interstudent relations*
 Sociograms*
- SOCIOPATHIC PERSONALITY (1648)
 DISORDER
 BT Personality disorder
 RT 7008
- SOCRATIC METHOD (1649)
 RT 2012
- SOMATOTYPE (1650)
 RT 8002
- SON (1651)
 RT 12002
- SOPHOMORE (1652)
 SN College
 BT Undergraduate level
 RT 14001
- SORORITY (1653)
 RT 1001
- SORTING TEST (1654)
 SN Task or test to measure
 conceptualization
 RT 2002
 Conceptualization*
 Discrimination
- SOUND (1655)
 SN *
 UF Audio
 RT 9004
 Audiovisual aid
 Auditory perception
 Sensory discrimination
- SOUND PROOFING (1656)
 RT 15020
- SOUND TRACK (1657)
 RT 15014
- SOURCE MATERIALS (1658)
 SN *
 RT 15026

SPACE	(1659)	Visual handicap*
SN *		
RT 3001		SPEAKER (1667)
Space perception		SN Audio device
Space relations		RT 15014
Spatial ability		
SPACE ERROR	(1660)	SPEAKING (1668)
SN Tendency to be biased		SN *
by the spatial position		UF Speech
or stimuli in relation		RT 2018
to the observer		Language development*
RT 6005		Lecturing
Estimating*		Pronunciation*
Visual field*		Speech courses*
		Speech disorder
		Speech therapy
SPACE PERCEPTION	(1661)	
SN Direct awareness of the		SPEAKING VOCABULARY (1669)
spatial properties of		BT Vocabulary
an object		RT 16001
RT 2016		
Awareness		SPECIAL EDUCATION (1670)
Space relations*		RT 2012
Spatial ability*		Ability
Vision		Exceptional children*
Visual organization*		Individual differences*
		Mental handicap*
		Physical handicap*
SPACE RELATIONS	(1662)	
RT 5002		SPECIFICATIONS (1671)
Space perception*		SN *
Spatial ability*		RT 3001
Visual field*		
SPAN	(1663)	SPECIFICITY (1672)
SN *		RT 5003
RT 3001		Accuracy
Eye span		Clarity
Memory span		Denotation
SPANISH (LANGUAGE)	(1664)	
RT 17013		SPECIMENS (1673)
		SN *
		RT 15010
SPASTICITY	(1665)	
BT Mental handicap		SPEECH
RT 8001		USE Speaking
SPATIAL ABILITY	(1666)	
RT 6001		SPEECH CLINIC (1674)
Space perception*		RT 15028
Space relations*		
Vision		

SPEECH COURSES	(1675)	Golf	
RT 17012		Gymnastics	
Speaking*		Hockey	
Speech therapy		Rugby	
		Soccer	
SPEECH DISORDER	(1676)	Swimming	
BT Physical handicap		Tennis	
NT Cleft palate		Track and field	
Functional speech disorder		Volleyball	
Mutism		RT 17001	
Stuttering		Athletic coach*	
RT 8001		Muscular coordination	
Speech therapy*		Physical education*	
		Physical fitness*	
		Throwing*	
SPEECH READING			
USE Lip reading		SPOUSE	(1685)
		RT 12002	
SPEECH THERAPY	(1677)	SQUARE (GEOMETRIC SHAPE)	(1686)
RT 2011		RT 5006	
Speech disorder*			
SPEED	(1678)	STABILITY	(1687)
SN *		SN *	
RT 4001		RT 5002	
		Emotional stability	
SPELLING	(1679)	STAFF	(1688)
RT 17012		RT 1001	
Fingerspelling			
SPHERE (GEOMETRIC SHAPE)	(1680)	STAGE	(1689)
RT 5006		RT 15020	
SPIRAL PROGRAM	(1681)	STANCE	(1690)
RT 10001		SN Physiological	
Programmed books		RT 8002	
Programmed instruction		Motor activity*	
Programming			
Teaching machine		STANDARDS	(1691)
		SN *	
SPLIT SESSION	(1682)	RT 3001	
RT 4002			
SPONTANEITY	(1683)	STATEMENTS	(1692)
RT 7006		SN As distinguished from	
Expressiveness*		questions	
		RT 16001	
SPORTS	(1684)	STATISTICAL ANALYSIS	(1693)
NT Baseball		RT 2001	
Basketball			
Football			

STATISTICAL TEST	(1694)	Learning*	
NT Non parametric test		Stimulus*	
Parametric test		Stimulus strength*	
RT 2002		Threshold*	
STATISTICS	(1695)	STIMULUS STRENGTH	(1706)
RT 17005		RT 3001	
Statistical test		Perception*	
		Stimulus response	
STATUS	(1696)	relations*	
SN *		Threshold*	
RT 3001			
Income level		STOCKS	(1707)
Marital status		SN Finance	
Social class		RT 13001	
STATUTES	(1697)	STOPWATCH	(1708)
RT 12001		RT 15013	
STEEL	(1698)	STORYBOOKS	(1709)
RT 15022		RT 15026	
STENOGRAPHY	(1699)	STRAIN	(1710)
RT 17003		SN Physiological	
		UF Stress	
STENOTYPE MACHINE	(1700)	RT 8003	
RT 15016			
STEP SIZE	(1701)	STRATEGY	(1711)
RT 3002		RT 10001	
Pacing*		Planning	
Programmed instruction*		Problem solving	
Programming*			
Teaching machine*		STREAMING	
		USE Ability grouping	
STILL CAMERA	(1702)	STRENGTH	(1712)
RT 15005		SN *	
Photographs*		RT 3001	
		Ego strength	
STIMULUS	(1703)	Physical strength	
SN *			
RT 9001		STRESS	
Stimulus response		USE Strain	
relations*			
Stimulus strength		STRINGED INSTRUMENTS	(1713)
		BT Musical instruments	
STIMULUS GENERALIZATION	(1704)	RT 15024	
RT 2013			
STIMULUS RESPONSE RELATIONS	(1705)	STRIVING	
RT 9001		USE Perseverance	

STUDENT (1714)	STUDIO (1724)
UF Pupil	RT 15027
RT 1002	
STUDENT ATTITUDE (1715)	STUDY CARRELS
RT 7003	USE Carrels
STUDENT COUNCIL (1716)	STUDY GUIDES (1725)
RT 1001	RT 15026
STUDENT DISMISSAL (1717)	STUDY HABITS (1726)
SN Permanent disciplinary	UF Studying
release	RT 2015
RT 2008	Course load
Disciplining	Leisure time*
	Note taking*
	Study skills*
STUDENT LOANS (1718)	STUDY HALL (1727)
RT 13002	RT 15027
STUDENT ORGANIZATIONS (1719)	STUDY LOAD
SN *	USE Course load
RT 1001	
Extramural activities*	STUDY SKILLS (1728)
Interstudent relations*	RT 6003
Sociability*	Note taking*
Social interaction*	Outlining*
	Skimming*
STUDENT PARTICIPATION (1720)	Study habits*
RT 2023	
STUDENT SUSPENSION (1721)	STUDYING
RT 2008	USE Study habits
Disciplining	
Scholastic probation*	STUTTERING (1729)
	BT Speech disorder
STUDENT TEACHER (1722)	RT 8001
RT 1003	
Student teaching*	STYLE (1730)
Teacher education*	SN *
Teacher evaluation	RT 3001
	Format*
STUDENT TEACHING (1723)	STYLUS (1731)
UF Practice teaching	RT 15023
RT 2012	
Classroom observation*	SUBCEPTION (1732)
Critic teacher*	SN Reaction to a stimulus
Student teacher*	object not fully enough
Supervisory observation*	perceived to be reportable
Teacher evaluation*	RT 2016

SUBJECT MATTER RT 11002	(1733)	SUMMER CAMP RT 15029 Summer session*	(1745)
SUBJECTIVITY RT 7002	(1734)	SUMMER SCHOOL USE Summer session	
SUBMISSIVENESS RT 7006 Ascendance Compliance*	(1735)	SUMMER SESSION UF Summer school RT 4002 Summer camp*	(1746)
SUBSIDY SN * RT 13002	(1736)	SUNDAY SCHOOL RT 15028	(1747)
SUBSTITUTE TEACHER UF Relief teacher RT 1003 Teacher certification*	(1737)	SUPERVISING SN * RT 2007 Supervisory observation	(1748)
SUBTITLE RT 16001	(1738)	SUPERVISORY OBSERVATION SN Appraisal of teacher work by supervisor or critic teacher UF Class visitation RT 2005 Observed classroom behaviors* On the job training* Student teaching* Teacher evaluation*	(1749)
SUBTRACTION SN Arithmetical calculation RT 17005	(1739)		
SUBURBAN AREA RT 15029	(1740)		
SUCCESS SN * RT 6004 Social mobility	(1741)	SUPPLIES USE Materials	
SUCCINCTNESS USE Conciseness		SUPPRESSION SN Ego defense RT 7002 Play therapy*	(1750)
SUFFICIENCY USE Adequacy			
SUFFIXES RT 16001	(1742)	SUPREME COURT LITIGATION BT Litigation RT 2024	(1751)
SUGGESTIBILITY RT 7006 Hypnosis*	(1743)	SURVEY COURSES RT 10002	(1752)
SUICIDE RT 8001	(1744)	SUSCEPTIBILITY USE Proneness	

SUSPICION	(1753)	RT 10001	
RT 7003		Systems analysis	
SWIMMING	(1754)	SYSTEMS ANALYSIS	(1765)
BT Sports		RT 2001	
RT 17001		Planning	
SWITCH	(1755)	SYSTEMS ANALYST	(1766)
SN Device		RT 1007	
RT 15016			
SWITCHBOARD	(1756)	SYSTEMS DESIGN	(1767)
RT 15016		RT 2001	
		Automation*	
		Teaching method	
SYLLABUS	(1757)		
RT 10001		TABOOS	(1768)
		RT 12001	
SYLLOGISM	(1758)		
RT 16001		TACHISTOSCOPE	(1769)
		RT 15006	
SYMBOL	(1759)		
SN *		TACTUAL PERCEPTION	(1770)
RT 16001		RT 2016	
		Cutaneous sense*	
SYMBOLIC LOGIC			
USE Mathematical logic		TALENT	(1771)
		SN *	
SYMMETRY	(1760)	RT 6002	
UF Proportion		Creativity	
RT 5002		High intelligence	
SYMPATHY	(1761)	TALK BACK	(1772)
RT 7001		SN Intercommunication device	
Social interaction		RT 15014	
SYMPOSIUM			
USE Professional meeting		TALKING BOOKS	(1773)
		RT 15014	
SYNONYMY	(1762)	TAPE RECORDER	(1774)
RT 5003		RT 15014	
Meaning			
SYNTALITY	(1763)	TAPE RECORDINGS	(1775)
SN The nature of a social		BT Recordings (sound)	
group as revealed by		RT 15014	
consistent behavior of		Recording*	
the group as such			
RT 12003		TASK	(1776)
		SN *	
SYSTEM	(1764)	RT 2014	
SN *		Concept formation	
		Serial learning	
		Task completion	

TASK COMPLETION (1777)	TEACHER COUNSELOR (1789)
RT 2010	SN Dual function
Achievement	RT 1005
Completion time*	Counseling
Level of complexity*	
Level of difficulty*	
TASK SEQUENCE (1778)	TEACHER DISMISSAL (1790)
RT 4001	SN Permanent disciplinary release
	RT 2008
	Disciplining
TASTE (1779)	TEACHER EDUCATION (1791)
SN Gustatory sense mode	UF Instructor training
RT 9001	Training training
	RT 2012
TAX BASE (1780)	Education courses*
RT 13001	Student teacher*
	Teacher certification*
TAX EXEMPTION (1781)	
RT 13001	
TAXES (1782)	TEACHER EVALUATION (1792)
SN *	RT 2004
RT 13001	Critic teacher*
	Student teaching*
	Supervisory observation*
TAXONOMY (1783)	Teacher probation*
RT 10001	Teacher suspension*
Classification	
TAXPAYER (1784)	TEACHER PARTICIPATION (1793)
RT 1011	RT 2023
TEACHER (1785)	TEACHER PROBATION (1794)
SN *	RT 12004
UF Instructor	Teacher evaluation*
School teacher	
RT 1003	
	TEACHER RATIO (1795)
TEACHER ADMINISTRATION (1786)	RT 3001
RELATIONS	
RT 12003	TEACHER SELECTION (1796)
Resigning*	RT 2004
	Hiring*
	Recruiting*
TEACHER ATTITUDE (1787)	TEACHER STUDENT RELATIONS (1797)
RT 7003	RT 12003
TEACHER CERTIFICATION (1788)	TEACHER SUSPENSION (1798)
UF Certification	RT 2008
RT 2007	Disciplining
Substitute teacher*	Teacher evaluation*
Teacher education*	

TEACHER TRAINING		TEAM TEACHING	(1807)
USE Teacher education		RT 2012	
		Group planning*	
TEACHERS AIDE	(1799)	TEAMWORK	(1808)
SN Student help		RT 2023	
RT 1003		Group atmosphere	
TEACHERS COLLEGE	(1800)	Group planning*	
RT 15028		Team teaching	
TEACHERS UNION	(1801)	TECHNICAL EDUCATION	
RT 1001		USE Vocational education	
TEACHING	(1802)	TECHNICOLOR	
SN *		USE Chromatic color	
UF Instruction		TECHNIQUE	(1809)
Training		SN *	
RT 2012		RT 3001	
Conditioning*			
Learning*		TECHNOLOGICAL CHANGE	(1810)
TEACHING CONTRACT	(1803)	NT Automation	
RT 13001		RT 2021	
Tenure*		Data processing	
TEACHING LOAD	(1804)	TEEN AGE	
RT 3001		USE Adolescence	
Class preparation*		TELEGRAPH	(1811)
TEACHING MACHINE	(1805)	RT 15014	
UF Autotutor		TELEPHONE	(1812)
Self tutor		RT 15014	
NT Pressey punchboard		TELEVISED INSTRUCTION	(1813)
Pulltab device		UF Instructional television	
Write in machine		ITV	
RT 15009		Televised teaching	
Branching program*		RT 2012	
Pacing*		Educational television*	
Programmed books*		TELEVISED TEACHING	
Programmed instruction*		USE Televised instruction	
Programming*		TELEVISION	(1814)
Reinforcement*		SN *	
Response mode*		UF TV	
Step size*		RT 15007	
TEACHING METHOD	(1806)	Mass media	
SN *		Televised instruction	
RT 2012		Videotape recorder*	
Deduction*			
Guided learning*			
Induction*			

TELEVISION MONITORS	(1815)	Test evaluation*	
RT 15007		Test item*	
		Test reliability*	
TEMPERAMENT	(1816)		
SN *		TEST DESIGN	
RT 7006		USE Test construction	
Affect*			
Attitude		TEST EVALUATION	(1825)
Personality		RT 2004	
		Test construction*	
TEMPERATURE SENSE	(1817)	Test reliability*	
BT Cutaneous sense			
RT 9001		TEST ITEM	(1826)
		SN *	
TEMPO	(1818)	RT 11003	
SN Music		Item difficulty*	
RT 4001		Response mode*	
Rhythm*		Test construction*	
TENDENCY		TEST RELIABILITY	(1827)
USE Disposition		RT 3002	
		Test construction*	
TENNIS	(1819)	Test evaluation*	
BT Sports			
RT 17001		TEST VALIDITY	(1828)
		RT 3002	
TENSION		Test construction	
USE Emotional tension			
TENURE	(1820)	TESTING	(1829)
RT 4001		SN *	
Teaching contract*		RT 2002	
TERM PAPERS	(1821)	TEXT	(1830)
RT 15026		SN The continuum of words as	
		distinguished from a book	
TERMINAL BEHAVIOR		RT 16001	
USE Educational outcomes		TEXTBOOKS	(1831)
		RT 15026	
TEST	(1822)	TEXTILES	(1832)
SN *		RT 15022	
UF Examination			
RT 2002		THEATER	(1833)
TEST ADMINISTRATION	(1823)	RT 15027	
SN The process of			
administering tests		THEMES	
RT 2002		USE Compositions	
TEST CONSTRUCTION	(1824)	THEOLOGY	(1834)
UF Test design		RT 17007	
RT 2001			

THEORY	(1835)	TIMER	(1846)
SN *		SN Device	
RT 10001		RT 15013	
THERAPY	(1836)	TIMING	(1847)
SN *		SN Quality of coordination	
RT 2011		RT 4001	
THESAURUS	(1837)	Accuracy	
RT 15026		Manual dexterity	
THESES	(1838)	Muscular coordination	
SN Masters degree		Scheduling	
RT 15026		TINT	(1848)
THINKING	(1839)	RT 9003	
SN *		TOLERANCE	
RT 2016		USE Fairness	
Analysis*		TOLERANCE OF AMBIGUITY	(1849)
THIRST	(1840)	RT 7003	
RT 8003		TONALITY	(1850)
THREADING	(1841)	SN Sound dimension	
SN Manual task sense		RT 9004	
RT 2020		TONE	(1851)
Motor skills		SN Sound dimension	
THRESHOLD	(1842)	RT 9004	
UF Limen		TONE COLOR	
RT 9002		USE Equipment	
Sensation		TOTALITARIANISM	(1852)
Sensitivity*		NT Communism	
Stimulus response		Fascism	
relations*		RT 7004	
Stimulus strength*		TOWNSHIP LEVEL	(1853)
THROWING	(1843)	RT 15029	
RT 2020		TOYS	(1854)
Sports*		RT 15017	
TIMBRE	(1844)	TRACINGS	(1855)
SN Sound dimension		RT 15002	
UF Tone color		TRACK AND FIELD	(1856)
RT 9004		BT Sports	
TIME	(1845)	RT 17001	
SN *			
RT 4001			

TRACK SYSTEM (1857)	TRAVEL STUDY PROGRAM (1869)
SN Curriculum	RT 10002
NT Multiple track program	
RT 10002	TREATMENT (MEDICAL)
	USE Medical treatment
TRADE SCHOOL	
USE Vocational school	TRIAL AND ERROR LEARNING (1870)
	RT 2015
TRADITIONALISM (1858)	Guessing*
RT 7004	
TRADITIONS (1859)	TRIANGLE (GEOMETRIC SHAPE) (1871)
RT 12001	RT 5006
TRAFFIC GUARDS (1860)	TRIGONOMETRY (1872)
RT 1009	BT Mathematics
	RT 17005
TRAFFIC SAFETY (1861)	TRIMESTER SYSTEM (1873)
RT 12004	RT 4002
Accident*	
TRAINEE (1862)	TRINKETS (1874)
RT 1002	RT 15017
TRAINING	TRUANCY (1875)
USE Teaching	RT 2023
	Drop out
TRANSCRIPT (1863)	Juvenile delinquency*
RT 15026	
TRANSFER (1864)	TRUE FALSE ITEM (1876)
SN Of learning or training	RT 11003
US Application	
RT 2013	TRUST (1877)
Learning*	UF Faith
Warm up*	RT 7006
	Security*
TRANSFER STUDENT (1865)	TUITION COSTS (1878)
RT 1002	RT 13001
Geographical mobility*	
TRANSLATION (1866)	TUNE
SN One language to another	USE Melody
RT 2001	
TRANSMITTER (1867)	TUTORING (1879)
SN Audio device	SN Out of class individual
RT 15014	instruction
	RT 2012
	Homebound
TRANSPARENCIES (1868)	TV
RT 15004	USE Television

TWO YEAR COLLEGE	(1880)	UNDERSTANDABILITY	
BT College		USE Intelligibility	
NT Community college			
Junior college		UNDERSTANDING	
RT 14001		USE Comprehension	
TYPE FACE	(1881)	UNEMPLOYMENT	
SN Printing		USE Employment	
RT 16001			
TYPEWRITER	(1882)	UNIFICATION	(1888)
SN Device		SN *	
RT 15016		RT 2007	
TYPEWRITING		UNIONS	(1889)
USE Typing		SN *	
		RT 1001	
TYPING	(1883)	UNIQUENESS	(1890)
UF Typewriting		RT 5003	
RT 17003		Resourcefulness	
TYPIST	(1884)	UNIVERSAL DECIMAL	(1891)
RT 1008		CLASSIFICATION	
UNDERACHIEVEMENT	(1885)	BT Library classification	
BT Achievement		RT 2001	
RT 6004		Information service	
Underachiever*			
UNDERACHIEVER	(1886)	UNIVERSITY	
RT 1002		USE College	
Ability			
Motivation		UNIVERSITY PROGRAM	(1892)
Underachievement*		SN Those courses prerequisite	
		for admission to a	
		university or college	
		RT 2010	
UNDERGRADUATE LEVEL	(1887)	UNMARRIED	(1893)
SN College or University		RT 12002	
BT College			
NT Freshman		UPGRADING	
Junior		USE Improving	
Senior			
Sophomore		UPPER CLASS	(1894)
RT 14001		RT 12001	
UNDERNOURISHED		URBAN AREA	(1895)
USE Malnutrition		RT 15029	
UNDERPRIVILEGED			
USE Disadvantaged			

URBAN RENEWAL RT 2021 Housing* Slums*	(1896)	VANDALISM BT Antisocial behavior RT 2024 Hostility	(1905)
URBANIZATION RT 2023 Social change* Urban area	(1897)	VARIABILITY SN * UF Fluctuation Variation RT 5002 Change* Variety	(1906)
USAGE USE Utilization			
USAGE (LANGUAGE) USE Language usage		VARIABLE SEQUENCE PROGRAM USE Branching program	
USE USE Utilization		VARIABLES SN * UF Factors RT 5001	(1907)
USEFULNESS SN * RT 3002	(1898)		
UTILIZATION UF Implementation Usage Use RT 2007	(1899)	VARIATION USE Variability	
VACATION TIME RT 4001 Relaxation Rest	(1900)	VARIETY SN * RT 5003 Boredom Motivation Multimedia presentation	(1908)
VAGUENESS RT 11001 Comprehension	(1901)	VENTILATION RT 15020	(1909)
VERBAL ABILITY UF Verbalization RT 6001 Language comprehension* Language development*	(1902)	VERBAL ABILITY RT 6001 Language comprehension* Language development*	(1910)
VERBAL LEARNING USE Language development			
VALUE JUDGEMENTS RT 12001 Attitude* Evaluating	(1903)	VERBAL RESPONSE NT Constructed response Oral response RT 2017	(1911)
VALUES SN * RT 12001	(1904)	VERBALIZATION USE Verbal ability	

VERBS	(1912)	VISION	(1924)
RT 6001		UF Eyesight	
VERTICAL SOCIAL MOBILITY	(1913)	Seeing	
BT Social mobility		Sight	
RT 12001		RT 9001	
VICARIOUS EXPERIENCE	(1914)	Eye examination*	
RT 7007		Eyedness*	
VIDEOTAPE RECORDER	(1915)	Threshold	
RT 15005		Visual comprehension*	
Television*		Visual handicap*	
Videotape recordings*		Visual perception*	
Videotaping*		VISION STRIPS	(1925)
VIDEOTAPE RECORDINGS	(1916)	RT 15020	
RT 15004		VISITATION	(1926)
Videotape recorder*		SN *	
VIDEOTAPING	(1917)	RT 2005	
RT 2006		VISITING NURSE	(1927)
Videotape recorder*		BT Nurse	
VIDICON CAMERA	(1918)	RT 1006	
RT 15005		VISITING TEACHER	(1928)
VIEWING ANGLE	(1919)	RT 1003	
SN The angle formed by a		Chronic illness	
line from the eye to			
the viewed surface			
VIEWING HABITS	(1920)	VISUAL ACUITY	
SN Television or film		USE Vision	
RT 2019		VISUAL ANGLE	(1929)
Visual comprehension		SN The angle subtended by an	
VIEWPOINT		object in the visual field	
USE Opinion		at the nodal point of the	
VILLAGE LEVEL	(1921)	eye	
RT 15029		RT 5006	
VIOLENCE	(1922)	Retinal image*	
SN *		Visual perception*	
RT 2024		VISUAL COMPREHENSION	(1930)
Coercion*		RT 2016	
Hostility		Vision*	
VISIBILITY	(1923)	Visual handicap	
BT Perceptibility		VISUAL DISCRIMINATION	(1931)
RT 9002		RT 2016	
		Vision	
		Visual handicap	

- VISUAL FIELD (1932)
 RT 9003
 Space error*
 Space relations*
- VISUAL HANDICAP (1933)
 BT Physical handicap
 NT Astigmatism
 Blindness
 Hyperopia
 Myopia
 RT 8001
 Spatial ability*
 Vision*
- VISUAL IMAGE
 USE Retinal image
- VISUAL ORGANIZATION (1934)
 RT 5002
 Space perception*
 Visual field
 Visual perception*
- VISUAL PERCEPTION (1935)
 RT 2016
 Retinal image*
 Space relations
 Vision*
 Visual angle*
 Visual handicap
 Visual organization*
- VISUALIZATION (1936)
 SN The picturing of objects
 and events in the mind
 RT 2016
 Mental image*
- VISUALS (1937)
 SN *
 RT 15002
 Books
 Cameras
 Chalkboard
 Charts
 Films
 Projector
 Realia
 Television
- VOCABULARY (1938)
 NT Reading vocabulary
 Speaking vocabulary
 RT 16001
 Vocabulary building
- VOCABULARY BUILDING (1939)
 BT Language development
 RT 2015
 Verbal ability
- VOCABULARY APTITUDE (1940)
 RT 6002
 Job success*
 Qualifications
 Vocational education
- VOCATIONAL EDUCATION (1941)
 UF Job training
 Occupational training
 Technical education
 Vocational training
 NT Retraining
 RT 2012
 Job placement*
- VOCATIONAL INHIBITION
 USE Job success
- VOCATIONAL SCHOOL (1942)
 UF Trade school
 RT 15028
- VOCATIONAL TRAINING
 USE Vocational education
- VOICE (MUSIC) (1943)
 RT 17011
 Sightsinging*
- VOLLEYBALL (1944)
 BT Sports
 RT 17001
- VOTER (1945)
 RT 1011
- VOWELS (1946)
 RT 16001

WAGES			WIRE RECORDINGS	(1959)
USE	Salary		BT	Recordings (sound)
			RT	15014
WAITRESS		(1947)		
RT	1008		WIRING	(1960)
			RT	15020
WALLS		(1948)		
RT	15020		WISH FULFILLMENT	(1961)
			UF	Fantasy
WARM UP		(1949)	RT	7002
RT	2014			
	Transfer*		WITHDRAWAL	(1962)
			SN	Academic
WARMTH		(1950)	RT	2010
RT	9001			Attrition rate*
				Drop out
WATER COLOR PAINTINGS		(1951)		
BT	Paintings		WOOD	(1963)
RT	15002		RT	15022
WEEKLY		(1952)	WOODWINDS	(1964)
RT	4002		BT	Musical instruments
			RT	15024
WEIGHT		(1953)		
SN	Human		WORD	(1965)
RT	8002		RT	16001
WEIGHTING		(1954)	WORD DISCRIMINATION	(1966)
RT	11001		RT	2016
				Alexia*
WELFARE SERVICE				Reading*
USE	Social work			Reading ability*
WHITE COLLAR WORKER		(1955)	WORD LISTS	(1967)
RT	1008		SN	*
	Socioeconomic level*		RT	15026
WHITE RACE			WORK	
USE	Caucasian		USE	Occupation
WIDOWED		(1956)	WORK SHEETS	(1968)
RT	12002		RT	15026
	Death*			
WIFE		(1957)	WORK STUDY PROGRAM	(1969)
RT	12002		UF	Coop work experience
				Cooperative education
			RT	10002
WINDOWS		(1958)	WORKBOOKS	(1970)
RT	15020		RT	15026

- WORKING CONDITIONS (1971)
 RT 12003
 Fringe benefits
 Illumination
 Safety
- WORLD HISTORY (1972)
 BT History
 RT 17014
- WRITE IN MACHINE (1973)
 BT Teaching machine
 RT 15009
 Constructed response*
- WRITING (1974)
 NT Creative writing
 Expository writing
 RT 2019
 Abstracting*
 Compositions*
 Language development*
 Logical organization*
 Penmanship*
 Prose*
 Rewriting*
- WRITTEN LANGUAGE (1975)
 DEVELOPMENT
 BT Language development
 RT 2015
 Compositions*
 Writing
- YOUNG ADULT (1976)
 SN Age twenty-one to thirty
 BT Maturity
 RT 8005
- YOUTH (1977)
 SN *
 RT 8005
- YUKON (1978)
 RT 15029
- ZONING (1979)
 RT 2007
- ZOOLOGY (1980)
 RT 17015

PART 3 FACETED SECTION

FACET 1 (PEOPLE)

SUB-FACET 1001

(General groups of people,
corporate bodies, organiza-
tions)

AUDIENCE
PERSONNEL
POPULATION
STAFF

CLIQUE
CLUBS
FOUR H CLUBS
FRATERNITY
SORORITY
STUDENT COUNCIL
STUDENT ORGANIZATIONS

ETHNIC GROUP
MINORITY GROUP
PEER GROUP
PRESSURE GROUP
ADMINISTRATIVE PERSONNEL
LABOR UNION
PROFESSIONAL ASSOCIATION
PROFESSIONAL SOCIETY
TEACHERS UNION
UNIONS

CITIZENS COMMITTEE
PARENT TEACHER ASSOCIATION
PTA

CORPORATION
FOUNDATIONS (PHILANTHROPIC)

CIVIL SERVICE

FIRE DEPARTMENT
POLICE DEPARTMENT

FACET 1 (PEOPLE)

SUB-FACET 1002

(Students and Children)

APPRENTICE
FOREIGN STUDENT

PUPIL
STUDENT
TRAINEE
TRANSFER STUDENT

DROP OUT
EXCEPTIONAL CHILDREN
GIFTED CHILDREN
MENTALLY HANDICAPPED CHILDREN
OVERACHIEVER
PHYSICALLY HANDICAPPED CHILDREN
REPEATER
RETARDED CHILDREN
SLOW LEARNER
UNDERACHIEVER

FACET 1 (PEOPLE)

SUB-FACET 1003

(Teachers and Assistants)

ASSISTANT PROFESSOR
ASSOCIATE PROFESSOR
ATHLETIC COACH
CRITIC TEACHER
EXCHANGE PROFESSOR
EXCHANGE TEACHER
HOMEROOM TEACHER
INSTRUCTOR
LECTURER
PROFESSOR
RELIEF TEACHER
REMEDIAL READING SPECIALIST
SCHOOL TEACHER
STUDENT TEACHER
SUBSTITUTE TEACHER
TEACHER
VISITING TEACHER

GRADUATE ASSISTANT
RESEARCH ASSISTANT

LAY READER
TEACHERS AIDE

FACET 1 (PEOPLE)
 SUB-FACET 1004
 (Academic Instructors)

BOARD OF EDUCATION
 BOARD OF TRUSTEES
 DEPARTMENT OF EDUCATION
 SCHOOL BOARD

ASSISTANT PRINCIPAL
 DEAN
 DEPARTMENT CHAIRMAN
 DEPARTMENT HEAD
 PRINCIPAL
 SCHOOL SUPERINTENDENT

FACET 1 (PEOPLE)
 SUB-FACET 1005
 (Counsellors, Religious workers)

ADVISOR
 COUNSELOR
 FOREIGN STUDENT ADVISOR
 GUIDANCE COUNSELOR
 TEACHER COUNSELOR

CONSULTANT
 RESOURCE PERSON

CASE WORKER
 PROBATION OFFICER
 PSYCHIATRIC SOCIAL WORKER
 PSYCHOLOGIST
 SCHOOL PSYCHOLOGIST
 SCHOOL SOCIAL WORKER
 SOCIAL WORKER

CLERGYMAN
 MINISTER
 MISSIONARY
 NUN
 PRIEST
 RABBI
 RELIGIOUS WORKER

FACET 1 (PEOPLE)
 SUB-FACET 1006
 (Health Personnel)

CLINICIAN
 DENTIST
 DOCTOR
 MEDICAL INTERN
 OCULIST
 OPHTHALMOLOGIST
 PEDIATRICIAN
 PHYSICIAN
 PSYCHIATRIST
 RESIDENT PHYSICIAN
 SCHOOL PHYSICIAN

DENTAL HYGIENIST
 DIETICIAN
 HOME ECONOMIST
 NURSE
 OCCUPATIONAL THERAPIST
 PHYSICAL THERAPIST
 PRACTICAL NURSE
 SCHOOL NURSE
 VISITING NURSE

FACET 1 (PEOPLE)
 SUB-FACET 1007
 (Scientists, Professionals)

BIOLOGIST
 CHEMIST
 MATHEMATICIAN
 PHYSICIST
 SCIENTIST
 SOCIOLOGIST

ENGINEER
 PROGRAMMER
 SYSTEMS ANALYST

LIBRARIAN

LAWYER

FACET 1 (PEOPLE)
 SUB-FACET 1008
 (White Collar Workers)

ACCOUNTANT
 BOOKKEEPER
 CLERICAL WORKER

CLERK
HOUSEWIFE
SECRETARY
TYPIST
WHITE COLLAR WORKER

SALESPERSON
WAITRESS

FACET 1 (PEOPLE)
SUB-FACET 1009
(Blue Collar Workers)

AGRICULTURAL AGENT
BLUE COLLAR WORKER
CARPENTER
FARMER
LABORER
MECHANIC
MIGRANT WORKER
PLUMBER
SCHOOL BUS DRIVER
TRAFFIC GUARDS

FACET 1 (PEOPLE)
SUB-FACET 1011
(General, by status or function)

CONSUMER
PATIENT

TAXPAYER
VOTER

PRISONER

FACET 2 (ACTIVITIES)
SUB-FACET 2001
(Analysis, Classification, Design-
ing)

ANALYSIS
CONTENT ANALYSIS
COST ANALYSIS
DIAGNOSIS
ITEM ANALYSIS

JOB ANALYSIS
STATISTICAL ANALYSIS
SYSTEMS ANALYSIS

CLASSIFICATION
DEWEY CLASSIFICATION
FACET CLASSIFICATION
LIBRARY CLASSIFICATION
LIBRARY OF CONGRESS CLASSIFICATION
UNIVERSAL DECIMAL CLASSIFICATION

ABSTRACTING
INDEXING
NOTE TAKING
OUTLINING

CURRICULUM DESIGN
CURRICULUM DEVELOPMENT
DESIGNING
SYSTEMS DESIGN
TEST CONSTRUCTION
TEST DESIGN

BROADCAST PROGRAMMING
COMPUTER PROGRAMMING
PROGRAMMING

CODING
DECODING
ENCODING
TRANSLATION

INTERPRETATION

FACET 2 (ACTIVITIES)
SUB-FACET 2002
(Testing, Evaluating)

EXAMINATION
POSTTESTING
PRETESTING
TEST
TEST ADMINISTRATION
TESTING

ABILITY TEST
ACHIEVEMENT TEST
APTITUDE TEST
ATTITUDE SCALE
EDUCATIONAL TEST

INTELLIGENCE TEST
 INTEREST TEST
 MENTAL TEST
 NOMINATING TECHNIQUE
 PERSONALITY INVENTORY
 PERSONALITY SCALE
 PERSONALITY TEST
 PROJECTIVE TEST
 PSYCHOLOGICAL TEST
 SOCIOMETRIC TECHNIQUE
 SOCIOMETRIC TEST

CROSS CULTURE TEST
 CULTURE FREE TEST
 MATCHING TEST
 NON VERBAL TEST
 PAIRED COMPARISON TEST
 PERFORMANCE TEST
 SORTING TEST

ADMISSION TEST
 DIAGNOSTIC TEST
 INSTRUCTIONAL TEST
 PLACEMENT TEST
 PROGNOSTIC TEST

AUDIOVISUAL TEST

NON PARAMETRIC TEST
 PARAMETRIC TEST
 STATISTICAL TEST

FACET 2 (ACTIVITIES)
 SUB-FACET 2003
 (Health examination)

DENTAL EXAMINATION

EAR EXAMINATION
 EYE EXAMINATION
 PHYSICAL EXAMINATION

FACET 2 (ACTIVITIES)
 SUB-FACET 2004
 (Selecting, Comparing, Scoring)

SELECTION
 TEACHER SELECTION
 COMPARING
 CRITICIZING
 ESTIMATING
 EVALUATING
 JUDGING
 JUDGING (DISTANCE OR NUMBER)
 TEACHER EVALUATION
 TEST EVALUATION

GRADING (SCHOOL MARK)
 MARKING (SCHOOL MARK)
 RATING
 SELF RATING

MACHINE SCORING
 SCORING
 SELF SCORING

FACET 2 (ACTIVITIES)
 SUB-FACET 2005
 (Observation, Visitation)

CLASSROOM OBSERVATION
 OBSERVATION
 SUPERVISORY OBSERVATION

CLASS VISITATION
 HOME VISITATION
 VISITATION

EXCURSION
 FIELD TRIP

FACET 2 (ACTIVITIES)
 SUB-FACET 2006
 (Recording)

FILMING
 PHOTOGRAPHING
 RECORDING
 VIDEOTAPING

FACET 2 (ACTIVITIES)

SUB-FACET 2007

(Administrating, Planning,
Purchasing, Maintenance)

ADMINISTRATING

ALLOCATION

CONTROLLING

COORDINATING

ENFORCING

IMPLEMENTATION

LOCAL CONTROL

MANAGING

REGULATING

SCHEDULING

SUPERVISING

USAGE

USE

UTILIZATION

GROUP PLANNING

LONG TERM PLANNING

PLANNING

ACCREDITATION

AUTHORIZING

CERTIFICATION

LICENSING

TEACHER CERTIFICATION

CENTRALIZING

DECENTRALIZING

DEPARTMENTALIZING

DISTRICTING

UNIFICATION

ZONING

ACCIDENT PREVENTION

CIVIL DEFENSE

FIRE PREVENTION

HEALTH PRACTICES

IMMUNIZATION

LAW ENFORCEMENT

SANITATION

BUYING

INVESTING

PURCHASING

RENTING

SALES

SELLING

EQUIPMENT INVENTORY
INVENTORY

BUS TRANSPORTATION

BUILDING INSPECTION

CONSTRUCTION (SCHOOL)

INSPECTION

MAINTENANCE

REPAIRING

SCHOOL CONSTRUCTION

SERVICING

FACET 2 (ACTIVITIES)

SUB-FACET 2008

(Disciplining, Dismissing)

CORPORAL PUNISHMENT

CORRECTION (DISCIPLINE)

DISCIPLINARY ACTION

DISCIPLINE

DISCIPLINING

PUNISHMENT (DISCIPLINE)

DISMISSING

STUDENT DISMISSAL

STUDENT SUSPENSION

TEACHER DISMISSAL

TEACHER SUSPENSION

CENSORING

FACET 2 (ACTIVITIES)

SUB-FACET 2009

(Grouping, Separating)

ABILITY GROUPING

GROUPING

HETEROGENEOUS GROUPING

HOMOGENEOUS GROUPING

STREAMING

MATCHING

PAIRING

DESEGREGATION

INTEGRATION (RACIAL)
 RACIAL INTEGRATION
 RACIAL SEGREGATION
 SEGREGATION (RACIAL)

FACET 2 ACTIVITIES)
 SUB-FACET 2010
 (Entering, Completion)

ADMISSION
 EARLY ADMISSION
 ENTRANCE
 HIRING
 MATRICULATION
 NON-ACADEMIC
 RECRUITING
 REINSTATEMENT
 UNIVERSITY PROGRAM
 RESIGNING
 RETIREMENT
 WITHDRAWAL

COMPLETION
 COURSE COMPLETION
 TASK COMPLETION

FACET 2 (ACTIVITIES)
 SUB-FACET 2011
 (Counseling, Aid, Care,
 Facilitation)

ADVISING
 CONSULTATION
 COUNSELING
 GROUP COUNSELING
 GUIDANCE
 JOB PLACEMENT
 REFERRAL

SOCIAL SERVICE
 SOCIAL WORK
 WELFARE SERVICE

PHYSICAL THERAPY
 PLAY THERAPY
 PSYCHOTHERAPY
 REHABILITATION
 SPEECH THERAPY

THERAPY

HOSPITALIZING
 INSTITUTIONAL CARE
 MEDICAL TREATMENT
 TREATMENT (MEDICAL)

ADOPTION
 CARE
 CHILD REARING
 LEGAL ADOPTION

FACET 2 (ACTIVITIES)
 SUB-FACET 2012
 (Teaching, Teaching Methods,
 Training, Education)

INSTRUCTION
 TEACHING
 TRAINING
 TUTORING

REMEDIAL ENGLISH
 REMEDIAL READING
 REMEDIAL TEACHING
 REMEDIATION

AURAL ORAL METHOD
 AUTOINSTRUCTION
 COMPUTER ASSISTED INSTRUCTION
 DEMONSTRATION METHOD
 DISCUSSING
 GROUP DISCUSSION
 INDIVIDUALIZED INSTRUCTION
 INQUIRY METHOD
 LECTURE DEMONSTRATION
 LECTURE DISCUSSION
 LECTURING
 MULTIMEDIA PRESENTATION
 MULTISENSORY PRESENTATION
 ON THE JOB TRAINING
 PLAYBACK
 PROGRAMMED INSTRUCTION
 RECITATION
 SELF INSTRUCTION
 SIMULATION
 SOCRATIC METHOD
 TEACHING METHOD
 TEAM TEACHING
 TELEVISED INSTRUCTION

TELEVISED TEACHING

ACADEMIC ENRICHMENT
CULTURAL ENRICHMENT
ENRICHMENT

INSTRUCTOR TRAINING
PRACTICE TEACHING
STUDENT TEACHING
TEACHER EDUCATION
TEACHER TRAINING

ADULT EDUCATION
EDUCATION
IN SERVICE TRAINING
INDUSTRIAL EDUCATION
JOB TRAINING
OCCUPATIONAL TRAINING
PRESCHOOL EDUCATION
RETIREMENT EDUCATION
RETRAINING
SPECIAL EDUCATION
TECHNICAL EDUCATION
VOCATIONAL EDUCATION
VOCATIONAL TRAINING

FACET 2 (ACTIVITIES)
SUB-FACET 2013
(Conditioning, Application,
Reinforcement)

ANTICIPATING METHOD
CLUING
CUEING
PROMPTING

CLASSICAL CONDITIONING
CONDITIONING
EXTINCTION
INSTRUMENTAL CONDITIONING
OPERANT CONDITIONING
RESPONSE GENERALIZATION
STIMULUS GENERALIZATION

APPLICATION
TRANSFER

CONFIRMATION
NEGATIVE REINFORCEMENT

NEGATIVE REWARD
PUNISHMENT
REINFORCEMENT
REWARD

FACET 2 (ACTIVITIES)
SUB-FACET 2014
(Practice, Preparation)

DISTRIBUTED PRACTICE
DRILL
EXERCISE
MASSED PRACTICE
MASSING
PRACTICE
REPETITION
WARM UP

ASSIGNMENT
CLASS PREPARATION
CLASSWORK
HOMEWORK
PREPARATION
TASK

FACET 2 (ACTIVITIES)
SUB-FACET 2015
(Learning, Studying)

LEARNING
LEARNING TO LEARN
OVERLEARNING
SET LEARNING
TRIAL AND ERROR LEARNING

ASSOCIATIVE LEARNING
INCIDENTAL LEARNING
MOTOR LEARNING
PERCEPTUAL MOTOR LEARNING
SLEEP LEARNING
SOCIAL LEARNING

ATTITUDE FORMATION
HABIT FORMATION
HABITUATION

LANGUAGE DEVELOPMENT

LANGUAGE USAGE
 ORAL LANGUAGE DEVELOPMENT
 SECOND LANGUAGE LEARNING
 USAGE (LANGUAGE)
 VERBAL LEARNING
 VOCABULARY BUILDING
 WRITTEN LANGUAGE DEVELOPMENT

CORRESPONDENCE STUDY
 DIRECTED STUDY
 DISCOVERY LEARNING
 GUIDED LEARNING
 GUIDED STUDY
 INDEPENDENT STUDY
 NON DIRECTED STUDY
 SELF DIRECTED STUDY
 STUDY HABITS
 STUDYING

MEMORIZATION
 ROTE LEARNING
 SERIAL LEARNING

MEMORY SPAN
 RECALL
 RECOGNITION
 REMEMBERING
 RETENTION

LEARNING INHIBITION
 PROACTIVE INHIBITION
 RECIPROCAL INHIBITION
 RETROACTIVE INHIBITION

FACET 2 (ACTIVITIES)
 SUB-FACET 2016
 (Cognition, Reasoning, Com-
 prehension, Discrimination,
 Perception)

COGNITION
 COGNITIVE PROCESSES
 CONCEPTUALIZATION
 CREATIVE THINKING
 CRITICAL THINKING
 DECISION MAKING
 LOGICAL ORGANIZATION
 ORGANIZING
 PROBLEM SOLVING
 REASONING
 SEARCHING BEHAVIOUR

THINKING
 VISUALIZATION

DEDUCTION
 GUESSING
 INDUCTION
 INFERENCE
 INTUITION

ABSTRACTION
 CONCEPT FORMATION
 CONCEPTION
 GENERALIZATION

APPREHENSION
 AUDITORY COMPREHENSION
 COMPREHENSION
 LANGUAGE COMPREHENSION
 MECHANICAL COMPREHENSION
 READING COMPREHENSION
 UNDERSTANDING
 VISUAL COMPREHENSION

AUDITORY DISCRIMINATION
 DISCRIMINATION
 VISUAL DISCRIMINATION
 WORD DISCRIMINATION

APPERCEPTION
 AUDITORY PERCEPTION
 INTERSENSORY PERCEPTION
 LOCALIZATION
 PERCEPTION
 SOCIAL PERCEPTION
 SPACE PERCEPTION
 SUBCEPTION
 TACTUAL PERCEPTION
 VISUAL PERCEPTION

SENSORY ADAPTATION

FACET 2 (ACTIVITIES)
 SUB-FACET 2017
 (Response)

ANSWER
 BEHAVIOR
 CONSTRUCTED RESPONSE
 ORAL RESPONSE
 REACTION

RESPONSE
 RESPONSE MODE
 SENSORY DISCRIMINATION
 VERBAL RESPONSE

FACET 2 (ACTIVITIES)
 SUB-FACET 2018
 (Communicating, Speaking)

COMMUNICATING
 INFORMATION SERVICE
 LIBRARY SERVICE
 PUBLISHING

ADVERTISING
 PROPAGANDA
 PUBLIC RELATIONS

ARTICULATION
 COMMENTARY
 FINGERSPELLING
 NARRATION
 SHOW AND TELL
 SPEAKING
 SPEECH
 VERBALIZATION

INTERVIEW
 INTERVIEWING
 JOB INTERVIEW
 QUESTION ASKING

CONFERENCE (INTERPERSONAL)
 CONFERENCE (PROFESSIONAL MEETING)
 INTERPERSONAL CONFERENCE
 PROFESSIONAL MEETING
 SYMPOSIUM

FACET 2 (ACTIVITIES)
 SUB-FACET 2019
 (Writing, Listening, Reading)

CREATIVE WRITING
 EXPOSITORY WRITING
 REWRITING
 WRITING

AUDING

LEISURE LISTENING
 LISTENING
 LISTENING HABITS

LEISURE READING
 LIP READING
 MAP READING
 MUSIC READING
 ORAL READING
 READING
 READING HABITS
 SIGHTSINGING
 SILENT READING
 SKIMMING
 SPEECH READING

VIEWING HABITS

FACET 2 (ACTIVITIES)
 SUB-FACET 2020
 (Motor Activity)

MOTOR ACTIVITY
 MOVEMENT
 PSYCHOMOTOR ACTIVITY

CONDITIONING EXERCISE
 PHYSICAL EXERCISE

BREATH CONTROL
 COORDINATION (MUSCULAR)
 MOTOR CONTROL
 MUSCULAR COORDINATION

ASSEMBLING
 FINGERING
 GRASPING
 MANIPULATING
 THREADING

EYE MOVEMENT
 FIXATION PAUSE
 OCULAR PURSUIT
 OCULAR REGRESSION

JUMPING
 RUNNING
 THROWING

FACET 2 (ACTIVITIES)
SUB-FACET 2021
(Changes)

ADJUSTMENT
ALTERATION
CHANGE
DECREASE
DEPRECIATION
DIMINISHING
EXPANSION
INCREASE
INNOVATION
MODIFICATION
REDUCTION
SHORTENING

CORRECTION
OVERCORRECTION

AUTOMATION
SOCIAL CHANGE
TECHNOLOGICAL CHANGE

BUILDING IMPROVEMENT
IMPROVING
NEIGHBORHOOD IMPROVEMENT
REMODELING
UPGRADING
URBAN RENEWAL

GEOGRAPHICAL MOBILITY
IMMIGRATION
MIGRANCY
MIGRATION
RELOCATING

CONVALESCENCE
RECOVERY

FACET 2 (ACTIVITIES)
SUB-FACET 2022
(Growth, Development)

DEVELOPMENT
EMOTIONAL DEVELOPMENT
GROWTH
MATURATION
MENTAL DEVELOPMENT
MOTOR DEVELOPMENT

PHYSIOLOGICAL DEVELOPMENT
SOCIAL DEVELOPMENT

FACET 2 (ACTIVITIES)
SUB-FACET 2023
(Socialization, Participation)

ATTITUDE CHANGE
EXTRA CURRICULAR ACTIVITIES
GROUP ACTIVITY
GROUP DYNAMICS
INTERACTION
INTERPLAY
INTRAMURAL ACTIVITIES
MALADJUSTMENT
OBSERVED CLASSROOM BEHAVIORS
PLAYING
ROLE CHANGE
ROLE PLAYING
SOCIAL ADAPTATION
SOCIAL ADJUSTMENT
SOCIAL BEHAVIOR
SOCIAL INTERACTION
SOCIALIZATION

ACCULTURATION
ASSIMILATION
CULTURAL ASSIMILATION
URBANIZATION

DATING
SOCIALIZING

COOPERATION
TEAMWORK

CLASSROOM PARTICIPATION
MEMBERSHIP
PARENT PARTICIPATION
PARTICIPATION
STUDENT PARTICIPATION
TEACHER PARTICIPATION

ABSENTEEISM
ATTENDANCE
COMPULSORY EDUCATION
COMPULSORY SCHOOL ATTENDANCE
NON ATTENDANCE
TRUANCY

COMPETITION
 EMULATION
 IMITATION
 RIVALRY
 SIBLING RIVALRY

COMPLIANCE
 OBEDIENCE

FACET 2 (ACTIVITIES)
 SUB-FACET 2024
 (Antisocial, Disruptive
 behavior, Litigation)

AGGRESSION
 ANTISOCIAL BEHAVIOR
 CRIME
 CRUELTY
 DELINQUENCY
 DISRUPTIVE BEHAVIOR
 DISTURBANCE
 JUVENILE DELINQUENCY
 MISBEHAVIOR
 MISCONDUCT
 PROPERTY DAMAGE
 RIOTING
 VANDALISM
 VIOLENCE

ARGUMENT
 CIVIL DISOBEDIENCE
 CONFLICT
 CONTROVERSY
 DISAGREEMENT
 PASSIVE RESISTANCE
 PROTEST
 RESISTANCE
 RESISTIVE BEHAVIOR
 SOCIAL CONFLICT

LITIGATION
 SUPREME COURT LITIGATION

CHEATING
 DECEPTION
 LYING

FACET 3 MEASUREMENT)
 SUB-FACET 3001
 (General terms, Quantity,
 Quality)

MEASUREMENTS

ACADEMIC STANDARDS
 BUILDING STANDARDS
 JOB SPECIFICATIONS
 SPECIFICATIONS
 STANDARDS

CLASS RANK
 RANK
 RANK ORDER
 SCORE

MEAN (STATISTICAL)
 MEDIAN
 MODE
 MODE (STATISTICAL)

AMOUNT
 ATTRITION RATE
 CITY SIZE
 CLASS SIZE
 COMPLETION RATE
 DROPOUT RATE
 ENROLMENT SIZE
 NUMBER
 POPULATION SIZE
 QUANTITY
 SAMPLE SIZE
 SCHOOL SIZE
 SIZE

PERCENTAGE
 RATIO
 TEACHER STUDENT RATIO

CONDITION
 QUALITY
 STATUS

STYLE
 TECHNIQUE

ASSOCIATIVE STRENGTH
 DEGREE
 DOMINANCE
 INTENSITY

LEVEL
SIGNIFICANCE LEVEL
STIMULUS STRENGTH
STRENGTH

CASE LOAD
COURSE LOAD
LOAD
STUDY LOAD
TEACHING LOAD

COMPREHENSIVENESS
COVERAGE
LENGTH
LIMIT
SCOPE
SPAN

DISTRIBUTION
FREQUENCY DISTRIBUTION
NORMAL DISTRIBUTION
RANGE

CLASSROOM SPACE
SPACE

FACET 3 (MEASUREMENT)
SUB-FACET 3002
(Complexity, Usefulness,
Validity, Adequacy,
Manipulability)

COMPLEXITY
CONCISENESS
DIFFICULTY
ITEM DIFFICULTY
LEVEL OF COMPLEXITY
LEVEL OF DIFFICULTY
SIMPLICITY
STEP SIZE
SUCCINCTNESS

EFFECTIVENESS
EFFICIENCY
USEFULNESS

DISCRIMINATION POWER
TEST RELIABILITY
TEST VALIDITY

VALIDITY

ADEQUACY
AVAILABILITY
DEFICIENCY
INSUFFICIENCY
SHORTAGE
SUFFICIENCY

MANIPULABILITY
ORDERABILITY
REPEATABILITY
REPRODUCIBILITY

FACET 4 (TIME)
SUB-FACET 4001
(General terms, Time, Speed)

IMMEDIACY
RATE
RHYTHM
SIMULTANEITY
SPEED
TEMPO
TIME
TIMING

CONTROLLED PACING
EXPOSURE TIME
EXTERNAL PACING
GROUP PACING
INSTRUCTION RATE
MACHINE PACING
PACE
PACING
PRESENTATION RATE
SELF PACING

LEARNING RATE
PERCEPTUAL SPEED
REACTION TIME
READING RATE

COMPLETION TIME
INSTRUCTION TIME

DELAY
INTERRUPTION
INTERVAL

PAUSE

LEAVE OF ABSENCE

LEISURE TIME

RECESS

VACATION TIME

CONTINUITY

DURATION

INSTITUTIONAL AGE

LENGTH OF SERVICE

PERMANENCE

TENURE

ORDER

PRIMACY

PRIORITY

RECENCY

SEQUENCE

TASK SEQUENCE

FREQUENCY

FREQUENCY OF OCCURRENCE

INCIDENCE

REGULARITY

FACET 4 (TIME)

SUB-FACET 4002

(Academic Time Divisions)

BLOCK TIME

CLASS PERIOD

CLASS SESSION

RELEASED TIME

SESSION

SPLIT SESSION

DAY CLASSES

EVENING CLASSES

NIGHT SCHOOL

SUMMER SCHOOL

SUMMER SESSION

QUARTER SYSTEM

SCHOOL YEAR

SEMESTER SYSTEM

TRIMESTER SYSTEM

ANNUAL

BIENNIAL

BIWEEKLY

DAILY

FULL TIME

HALF DAY

MONTHLY

PART TIME

WEEKLY

FACET 5 (RELATIONSHIP)

SUB-FACET 5002

(General Terms)

COMBINATION

CORRELATION

RELATION

RELATIONSHIP

CAUSES

DEPENDENT VARIABLE

FACTORS

INDEPENDENT VARIABLE

INFLUENCE

VARIABLES

AUTONOMY

INDEPENDENCE

AGREEMENT

CONGRUENCY

DISTORTION

EXAGGERATION

INCONGRUITY

PROPORTION

SPACE RELATIONS

SYMMETRY

VISUAL ORGANIZATION

BALANCE

CONSISTENCY

DEVIATION

EQUILIBRIUM

FLUCTUATION

IMBALANCE

STABILITY

VARIABILITY

VARIATION

FACET 5 (RELATIONSHIP)
 SUB-FACET 5003
 (Similarity, Difference)

COMMONALITY
 COMPARABILITY
 EQUIVALENCE
 SIMILARITY
 SYNONYMITY
 DISCRETENESS
 SPECIFICITY
 UNIQUENESS

ABNORMALITY
 CONTRAST
 DIFFERENCE
 DISPARITY
 GROUP DIFFERENCES
 HETEROGENEITY
 INDIVIDUAL DIFFERENCES
 SEX DIFFERENCES
 SOCIAL DIFFERENCES
 VARIETY

FACET 5 (RELATIONSHIP)
 SUB-FACET 5004
 (Nearness, Distance)

CLOSENESS
 DISTANCE
 NEARNESS
 POSITION
 PROXIMITY
 SOCIAL DISTANCE

FACET 5 (RELATIONSHIP)
 SUB-FACET 5005
 (Pattern, Arrangement)

ARRANGEMENT
 CONFIGURATION
 DESIGN
 FORMAT
 LAYOUT
 PATTERN
 SEATING ARRANGEMENT

FACET 5 (RELATIONSHIP)
 SUB-FACET 5006
 (Form, Angle)

CIRCLE
 CUBE
 CYLINDER (GEOMETRIC SHAPE)
 ELLIPSE
 FORM
 GEOMETRIC SHAPE
 PARALLELOGRAM
 RECTANGLE
 SHAPE
 SPHERE (GEOMETRIC SHAPE)
 SQUARE (GEOMETRIC SHAPE)
 TRIANGLE (GEOMETRIC SHAPE)

ANGLE
 VIEWING ANGLE
 VISUAL ANGLE

FACET 6 (ABILITY)
 SUB-FACET 6001
 (Ability)

ABILITY
 AVERAGE INTELLIGENCE
 EDUCABILITY
 GENERAL ABILITY
 GIFTEDNESS
 HIGH INTELLIGENCE
 INTELLIGENCE
 INTELLIGENCE QUOTIENT
 IQ
 LOG INTELLIGENCE
 MENTAL ABILITY
 MENTAL AGE

ILLITERACY
 LISTENING ABILITY
 LITERACY
 MECHANICAL ABILITY
 MUSICAL ABILITY
 NUMERICAL ABILITY
 READING ABILITY
 REASONING ABILITY
 SOCIAL ABILITY
 SPATIAL ABILITY
 VERBAL ABILITY

CREATIVITY
IMAGINATION
INGENUITY
INVENTIVENESS
ORIGINALITY
RESOURCEFULNESS

ELIGIBILITY
EMPLOYABILITY
QUALIFICATIONS

FACET 6 (ABILITY)
SUB-FACET 6002
(Attitude)

ACADEMIC APTITUDE
APTITUDE
ARTISTIC APTITUDE
SCHOLASTIC APTITUDE
SOCIAL APTITUDE
TALENT
VOCATIONAL APTITUDE

FACET 6 (ABILITY)
SUB-FACET 6003
(Skill)

LANGUAGE SKILLS
MATHEMATICAL SKILLS
MOTOR SKILLS
SKILL
STUDY SKILLS

ACCURACY
COMPETENCE
CORRECTNESS
EXCELLENCE
EXPERTNESS
FLUENCY
MASTERY
PRECISION
PROFICIENCY

FACET 6 (ABILITY)
SUB-FACET 6004
(Achievement)

EDUCATIONAL OUTCOMES
EFFECT
JOB PERFORMANCE
JOB SUCCESS
OUTCOMES
OUTPUT
PERFORMANCE
PRODUCTIVITY
RESULT
SUCCESS
TERMINAL BEHAVIOR
VOCATIONAL INHIBITION

ACADEMIC IMPROVEMENT
ACADEMIC SUCCESS
ACCOMPLISHMENT
ACHIEVEMENT
ATTAINMENT
IMPROVEMENT
OVERACHIEVEMENT
UNDERACHIEVEMENT

ACADEMIC RETENTION
ACCELERATION
ADVANCEMENT
FAILURE
PASSING
PROMOTION
SKIPPING

AWARDS
GRADE POINT AVERAGE
GRADE (SCHOOL MARK)
MARK (SCHOOL MARK)

FACET 6 (ABILITY)
SUB-FACET 6005
(Error)

ERROR
ERROR RATE
MISTAKE
SPACE ERROR

DYSFUNCTION
INHIBITION
MALFUNCTION

FACET 7 (AFFECT)
 SUB-FACET 7001
 (General Terms, Positive
 emotion, Negative emotion)

AFFECT
 EMOTION
 FEELING
 MOOD
 MORALE

POPULARITY
 PRESTIGE

ANXIETY
 APPREHENSIVENESS
 DEPRESSION (MENTAL)
 EMOTIONAL TENSION
 FEAR
 FEELING OF INADEQUACY
 INADEQUACY (FEELING)
 INSECURITY
 MENTAL DEPRESSION
 SOCIAL INHIBITION

AFFECTION
 EXPRESSIVENESS
 EXTROVERSION
 FRIENDLINESS
 GREGARIOUSNESS
 LOYALTY
 SOCIABILITY
 SYMPATHY

ASCENDANCE
 AVERSION
 DISLIKE
 HOSTILITY

GRATIFICATION
 HAPPINESS
 SATISFACTION
 SECURITY

BOREDOM
 DISCONTENT
 DISSATISFACTION
 FRUSTRATION

FACET 7 (AFFECT)
 SUB-FACET 7002
 (Ego, Self Concept, Autism)

CHARACTERISTICS
 EGO
 EGO STRENGTH
 INDIVIDUALITY
 PERSONALITY

LEADERSHIP
 SELF RELIANCE

CONFIDENCE
 GUILT
 SELF ASSURANCE
 SELF CONCEPT
 SELF ESTEEM
 SELF RESPECT
 SHAME

DEFENSE
 DEFENSIVENESS
 EGO DEFENSE
 EMOTIONAL BLOCKING
 REPRESSION
 SUPPRESSION

AUTISM
 DAYDREAMING
 EGOCENTRISM
 FANTASY
 IDENTIFICATION (PSYCHOLOGICAL)
 INTROVERSION
 OBJECTIVITY
 PROJECTION
 SUBJECTIVITY
 WISH FULFILMENT

FACET 7 (AFFECT)
 SUB-FACET 7003
 (Attitude)

ATTITUDE
 OPINION
 PARENT ATTITUDE
 PROFESSIONAL ATTITUDE
 STUDENT ATTITUDE
 TEACHER ATTITUDE
 VIEWPOINT

AUTHORITARIANISM
BIAS
DOGMATISM
INTOLERANCE
ORGANIZATIONAL CLIMATE
PREFERENCE
PREJUDICE
RACIAL DISCRIMINATION
RIGIDITY

ADAPTABILITY
FAIRNESS
IMPARTIALITY
OVERPROTECTION
PERMISSIVENESS
PROTECTIVENESS
TOLERANCE
TOLERANCE OF AMBIGUITY

CAREFULNESS
CAUTIOUSNESS
CONSCIENTIOUSNESS
ENTHUSIASM
HESITANCE
INTEREST
INVOLVEMENT
RELUCTANCE
SUSPICION

APATHY
INDIFFERENCE
LETHARGY

ACCEPTANCE
APPRECIATION
APPROVAL
DISAPPROVAL
PRAISE
REJECTION
REPROOF

COURTESY
RESPECT

FACET 7 (AFFECT)
SUB-FACET 7004
(Ideology)

BUREAUCRACY
COMMUNISM
CONSERVATISM

DEMOCRACY
EMPIRICISM
FASCISM
HUMANISM
IDEALISM
IDEOLOGY
LIBERALISM
MATERIALISM
MILITARISM
NATIONALISM
PRAGMATISM
PROGRESSIVISM
RADICALISM
RATIONALISM
SOCIALISM
TOTALITARIANISM
TRADITIONALISM

FACET 7 (AFFECT)
SUB-FACET 7005
(Conation, Motivation)

CHALLENGE
COMPETENCE MOTIVATION
DISCOURAGEMENT
EFFECTANCE
ENCOURAGEMENT
EXTRINSIC MOTIVATION
HAWTHORNE EFFECT
INDUCEMENT
INTRINSIC MOTIVATION
MOTIVATION
NEED
NOVELTY

AMBITION
ASPIRATION
CURIOSITY
CURIOSITY AROUSAL
DESIRE

PERSEVERANCE
SELF DISCIPLINE
STRIVING

AIM
EDUCATIONAL OBJECTIVES
GOAL
OBJECTIVES
PURPOSE

FACET 7 (AFFECT)
 SUB-FACET 7006
 (Habit, Temperament)

DISPOSITION
 HABIT
 PREDISPOSITION
 PRONENESS
 PROPENSITY
 SUSCEPTIBILITY
 TEMPERAMENT
 TENDENCY

AFFECTIVITY
 IMPULSIVENESS
 IMPULSIVITY
 RESPONSIVENESS
 SPONTANEITY

CONFORMITY
 CREDULITY
 DOCILITY
 SUBMISSIVENESS
 SUGGESTIBILITY

BELIEF
 FAITH
 TRUST

CREDIBILITY
 DEPENDABILITY
 HONESTY
 RELIABILITY

FACET 7 (AFFECT)
 SUB-FACET 7007
 (Awareness, Set, Experience)

ATTENTION
 AWARENESS
 CONCENTRATION
 CONSCIOUSNESS
 SOCIAL CONSCIOUSNESS

ALERTNESS
 ORIENTATION
 READINESS
 READING READINESS
 SET

CONFUSION
 DISORIENTATION
 INDECISION

BACKGROUND
 EXPERIENCE
 FAMILIARITY
 VICARIOUS EXPERIENCE

FACET 7 (AFFECT)
 SUB-FACET 7008
 (Mental Health and Mental illness)

EMOTIONAL MATURITY
 EMOTIONAL STABILITY
 MENTAL HEALTH
 SELF CONTROL

EMOTIONAL DISTURBANCE
 MENTAL ILLNESS
 PERSONALITY DISORDER
 PERSONALITY PATTERN DISTURBANCE
 PERSONALITY TRAIT DISTURBANCE
 SOCIOPATHIC PERSONALITY DISORDER

AFFECTIVE PSYCHOSIS
 MANIC DEPRESSIVE PSYCHOSIS
 NEUROSIS
 PARANOIA
 PSYCHOSIS
 PSYCHOTIC DEPRESSIVE REACTION
 SCHIZOPHRENIA

FACET 8 (PHYSIOLOGICAL)
 SUB-FACET 8001
 (General terms for health and
 illness, Mental handicap,
 Physical handicap)

ADDICTION
 CHRONIC ILLNESS
 DISABILITY
 DISEASE
 FITNESS
 HANDICAP
 HEALTH
 HOMEBOUND

ILLNESS
 INSTITUTIONALIZED
 MALNUTRITION
 PERSONAL HYGIENE
 PHYSICAL CONDITION
 PHYSICAL FITNESS
 PHYSICAL HANDICAP
 SENILITY
 SICKNESS
 UNDERNOURISHED

AGRAPHIA
 ALEXIA
 ATHETOSIS
 BRAIN INJURY
 CEREBRAL PALSY
 DYSGRAPHIA
 DYSLEXIA
 MENTAL HANDICAP
 MENTAL RETARDATION
 MONGOLISM
 RETARDATION
 SPASTICITY

BIRTH
 CONGENITAL
 HEREDITY
 PREGANCY

ACCIDENT
 DEATH
 INJURY
 SCHOOL INJURY
 SUICIDE

ASTIGMATISM
 BLINDNESS
 COLOR BLINDNESS
 FAR SIGHTEDNESS
 FUNCTIONAL BLINDNESS
 HYPEROPIA
 MYOPIA
 NEAR SIGHTEDNESS
 NIGHT BLINDNESS
 VISUAL HANDICAP

DEAFNESS
 FUNCTIONAL DEAFNESS
 HARD OF HEARING
 HEARING DISORDER
 HEARING LOSS

BLOCKING
 CLEFT PALATE
 FUNCTIONAL SPEECH DISORDER
 MUTISM
 SPEECH DISORDER
 STUTTERING

FACET 8 (PHYSIOLOGICAL)
 SUB-FACET 8002
 (General terms for human
 physiological measures)

GAIT
 HEIGHT
 POSTURE
 SOMANTOTYPE
 STANCE
 WEIGHT

ENDURANCE
 ENERGY
 PHYSICAL STRENGTH

FACET 8 (PHYSIOLOGICAL)
 SUB-FACET 8003
 (Physiological states other than
 8001 or 8002)

HYPNOSIS
 RELAXATION
 REST
 SLEEP

EXHAUSTION
 EYESTRAIN
 FATIGUE
 SHOCK
 STRAIN
 STRESS
 TENSION

CONTRACTION (MUSCULAR)
 MUSCULAR CONTRACTION
 MUSCULAR RELAXATION
 RELAXATION (MUSCULAR)

AMBIDEXTERITY
 DEXTERITY

EYE DOMINANCE
 EYEDNESS
 FOOTEDNESS
 HANDEDNESS
 LATERALITY
 LEFT HANDEDNESS
 MANUAL DEXTERITY
 MOBILITY
 RIGHT HANDEDNESS

DRIVE (PHYSIOLOGICAL)
 HUNGER
 SEX DESIRE
 SEX INTERESTS
 THIRST

DISTRACTIBILITY
 EXCITABILITY
 EXCITATION
 RESTIVENESS
 SENSITIVITY

CENTRAL INHIBITION
 CONDUCTION
 CORTICAL INHIBITION
 NEURAL INHIBITION
 NEURAL TRANSMISSION

FACET 8 (PHYSIOLOGICAL)
 SUB-FACET 8004
 (Sex and Race)

FEMALE
 HOMOSEXUALITY
 MALE
 SEX
 SEXUAL INVERSION

INDIAN
 BIRACIAL
 CAUCASIAN
 NEGRO
 NONWHITE RACE
 ORIENTAL
 RACE
 WHITE RACE

FACET 8 (PHYSIOLOGICAL)
 SUB-FACET 8005
 (Age)

ADOLESCENCE
 ADULT
 AGE
 AGED
 BABY
 CA
 CHILDHOOD
 CHRONOLOGICAL AGE
 EARLY ADOLESCENCE
 EARLY CHILDHOOD
 INFANCY
 LATE ADOLESCENCE
 LATE CHILDHOOD
 LEVEL OF DEVELOPMENT
 MATURITY
 MID ADOLESCENCE
 MID CHILDHOOD
 MIDDLE AGE
 OLD AGE
 PREADOLESCENCE
 PRESCHOOL CHILD
 PUBERTY
 SCHOOL AGE
 TEEN AGE
 YOUNG ADULT
 YOUTH

LIFE EXPECTANCY

FACET 9 (SENSATION)
 SUB-FACET 9001
 (Sense Mode, Sensations)

AUDITORY ACUITY
 CUTANEOUS SENSE
 DERMAL SENSE
 EYE SPAN
 EYESIGHT
 HEARING
 MODALITY
 PRESSURE SENSE
 SEEING
 SENSE
 SENSE MODALITY
 SENSE MODE
 SENSING

SIGHT
SMELL
TASTE
TEMPERATURE SENSE
VISION
VISUAL ACUITY

PAIN
PLEASURE
SENSATION
SENSE DATUM
SENSE IMPRESSION
STIMULUS
STIMULUS RESPONSE RELATIONS
WARMTH

FACET 9 (SENSATION)
SUB-FACET 9002
(Perceptability)

AUDIBILITY
DETECTABILITY
PERCEPTIBILITY
VISIBILITY

READABILITY

DISCRIMINABILITY
DISTINGUISHABILITY
LEGIBILITY
LIMEN
THRESHOLD

EXPLICITNESS
IMPLICITNESS
OVERTNESS

FACET 9 (SENSATION)
SUB-FACET 9003
(Color, Light)

ACHROMATIC COLOR
BLACK AND WHITE
CHROMATIC COLOR
COLOR
COLOR SATURATION
HUE (COLOR)
TECHNICOLOR

TINT

RETINAL IMAGE
VISUAL FIELD
VISUAL IMAGE

BRIGHTNESS
DARKNESS
LIGHTNESS
LUMINOSITY

ARTIFICIAL LIGHT
ILLUMINATION
LIGHTING
NATURAL LIGHT

FACET 9 (SENSATION)
SUB-FACET 9004
(Sound)

ACOUSTICS
AUDIO
INTERFERENCE
MASKING
NOISE
SOUND

CONSONANCE
DISSONANCE
LOUDNESS
NASALITY
PITCH
TIMBRE
TONALITY
TONE
TONE COLOR

ACCENTUATION
INFLECTION
INTONATION
PRONUNCIATION

MELODY
MUSIC
TUNE

FACET 10 (MENTAL CONSTRUCTS)
 SUB-FACET 10001
 (General terms for Mental
 constructs, Names of programmed
 learning programs)

CONCEPT
 IDEA
 MENTAL IMAGE

COMMUNICATION THEORY
 CONSTRUCT
 HIERARCHY
 HYPOTHESIS
 MATRIX
 METHODOLOGY
 PARADIGM
 RESEARCH DESIGN
 SYSTEM
 TAXONOMY
 THEORY

GUIDELINES
 LESSON PLAN
 PLAN
 POLICY
 PROGRAM
 SCHEDULE
 STRATEGY
 SYLLABUS

BRANCHING PROGRAM
 CROWDER PROGRAM
 FIXED SEQUENCE PROGRAM
 INTRINSIC PROGRAM
 LINEAR PROGRAM
 RULEG SYSTEM
 SKINNER PROGRAM
 SPIRAL PROGRAM
 VARIABLE SEQUENCE PROGRAM

FACET 10. (MENTAL CONSTRUCTS)
 SUB-FACET 10002
 (Curriculum, Academic courses,
 but not by subject matter)

ADVANCED PLACEMENT PROGRAM
 COEDUCATIONAL CURRICULUM
 COOP WORK EXPERIENCE
 COOPERATIVE EDUCATION
 CORE CURRICULUM

CURRICULUM
 EDUCATIONAL RESEARCH
 EXCHANGE PROGRAM
 HONORS PROGRAM
 MULTIPLE TRACK PROGRAM
 NON GRADED CURRICULUM
 SELF CONTAINED CLASS
 TRACK SYSTEM
 TRAVEL STUDY PROGRAM
 WORK STUDY PROGRAM

AUDIT COURSES
 CORRESPONDENCE COURSES
 COURSES
 ELECTIVES
 NON CREDIT COURSES
 REQUIRED COURSES
 SURVEY COURSES

FACET 11 (DATA MESSAGE)
 SUB-FACET 11001
 (Meaning)

CONNOTATION
 DENOTATION
 IMPORTANCE
 MEANING
 MEANINGFULNESS
 SIGNIFICANCE
 WEIGHTING

ABSTRACTNESS
 AMBIGUITY
 CLARITY
 COHERENCE
 CONCRETENESS
 DISTINCTNESS
 EQUIVOCALITY
 INTELLIGIBILITY
 UNDERSTANDABILITY
 VAGUENESS

FACET 11 (DATA MESSAGE)
 SUB-FACET 11002
 (Message, Knowledge)

DATA
 FEEDBACK
 FOREKNOWLEDGE

KNOWLEDGE OF RESULTS
MESSAGE
PRIOR KNOWLEDGE

CONTENT
SUBJECT MATTER

FACET 11 (DATA MESSAGE)
SUB-FACET 11003
(Item)

COMPLETION ITEM
ESSAY ITEM
MULTIPLE CHOICE ITEM
TEST ITEM
TRUE FALSE ITEM

FACET 12 (SOCIAL)
SUB-FACET 12001
(General terms for cultural
values and phenomens, Socio-
economic level, Citizenship
and nationality status)

CULTURAL VALUES
CULTURE
CUSTOMS

LAWS
LEGISLATION
MORALS
MORES
REGULATIONS
RESTRICTIONS
RULES
SOCIAL ACCEPTABILITY
STATUTES
TABOOS
TRADITIONS
VALUE JUDGMENTS
VALUES

LEGAL PROBLEMS
PROBLEMS
SOCIAL PROBLEMS

DEMOGRAPHIC DATA
SOCIAL TREND

AVERAGE INCOME
CULTURAL DEPRIVATION
DEPRIVATION
DISADVANTAGED
ECONOMIC STATUS
HIGH INCOME
HORIZONTAL SOCIAL MOBILITY
IMPOVERISHED
INCOME LEVEL
LOW INCOME
LOWER CLASS
MIDDLE CLASS
POOR
POVERTY
SOCIAL CLASS
SOCIAL MOBILITY
SOCIOECONOMIC BACKGROUND
SOCIOECONOMIC LEVEL
UNDERPRIVELEGED
UPPER CLASS
VERTICAL SOCIAL MOBILITY

CAREER
EMPLOYMENT
OCCUPATION
UNEMPLOYMENT
WORK

CITIZENSHIP
FOREIGN BORN
IMMIGRANT
NATIONALITY
NATIVE BORN

FACET 12 (SOCIAL)
SUB-FACET 12002
(Familiar and marital status)

BROTHER
DAUGHTER
FAMILY
FATHER
HUSBAND
MOTHER
PARENT
SIBLING
SISTER
SON
SPOUSE
WIFE

DIVORCED
MARITAL STATUS
MARRIED
SEPARATED
UNMARRIED
WIDOWED

FACET 12 (SOCIAL)
SUB-FACET 12003
(Interpersonal relations,
Social Climate)

HOME SCHOOL RELATIONS
INTERGROUP RELATIONS
INTERPERSONAL RELATIONS
INTERSTUDENT RELATIONS
LABOR MANAGEMENT RELATIONS
PARENT CHILD RELATIONS
PARENT TEACHER RELATIONS
RACE RELATIONS
SCHOOL COMMUNITY RELATIONS
TEACHER ADMINISTRATION RELATIONS
TEACHER STUDENT RELATIONS

BROKEN HOME
CLASSROOM ENVIRONMENT
ENVIRONMENT
GROUP ATMOSPHERE
GROUP CLIMATE
HOME ENVIRONMENT
SOCIAL CLIMATE
SYNTALITY
WORKING CONDITIONS

FACET 12 (SOCIAL)
SUB-FACET 12004
(Probation, Social Conditions
other than 12003)

JUVENILE PROBATION
PROBATION
SCHOLASTIC PROBATION
TEACHER PROBATION

ACADEMIC PRESSURES
COERCION
EMERGENCY
FORCE
PARENTAL PRESSURES

PRESSURES
SOCIAL PRESSURES

ACADEMIC FREEDOM
CIVIL RIGHTS
FREEDOM
FREEDOM OF SPEECH
RIGHTS

AUTHORITY
DUTY
OBLIGATION
REQUIREMENTS
RESPONSIBILITY

LEGAL IMMUNITY
SAFETY
TRAFFIC SAFETY

EDUCATIONAL OPPORTUNITY
JOB OPPORTUNITY
OPPORTUNITY

FACET 12 (SOCIAL)
SUB-FACET 12005
(Religious and political
affiliation)

CATHOLIC
CHRISTIAN
HINDU
JEW
NON CHRISTIAN
PROTESTANT
RELIGION
RELIGIOUS AFFILIATION

POLITICAL AFFILIATION
POLITICS

FACET 13 (FINANCE)
SUB-FACET 13001
(General terms)

BUDGET
DEPRESSION (ECONOMIC)
ECONOMIC CONDITIONS
FINANCE

FISCAL POLICY
FUNDS
PRICE INDEX
TAX BASE
TAX EXEMPTION
TAXES

BONDS
CONTRIBUTIONS
DONATIONS
ENDOWMENTS
GIFTS
PROPERTY
REAL ESTATE
STOCKS

ACCIDENT INSURANCE
FRINGE BENEFITS
HEALTH INSURANCE
HOSPITALIZATION INSURANCE
INSURANCE
LIFE INSURANCE
PENSIONS
RETIREMENT BENEFITS
SOCIAL SECURITY

CONTRACT
PAY
SALARY
SALARY SCHEDULES
TEACHING CONTRACT
WAGES

COST
EXPENDITURES
EXPENSE
PRICE
TUITION COSTS

FACET 13 (FINANCE)
SUB-FACET 13002
(Financial aid programs)

AID TO DEPENDENT CHILDREN
ATHLETIC SCHOLARSHIPS
FELLOWSHIPS
FINANCIAL AID
GRANTS
GRANTS IN AID
LOANS

MERIT SCHOLARSHIPS
RELIEF
SCHOLARSHIPS
SCHOOL LUNCH PROGRAM
STUDENT LOANS
SUBSIDY

FACET 14 (EDUCATIONAL LEVEL)
SUB-FACET 14001
(Grade placement level)

EDUCATIONAL LEVEL
GRADE PLACEMENT
GRADE (EDUCATIONAL LEVEL)

KINDERGARTEN
NURSERY SCHOOL
PRESCHOOL LEVEL

ELEMENTARY SCHOOL
GRADE FIVE
GRADE FOUR
GRADE ONE
GRADE SCHOOL
GRADE SIX
GRADE THREE
GRADE TWO
GRAMMAR SCHOOL
INTERMEDIATE GRADES
MIDDLE GRADES
PRIMARY GRADES
PRIMARY SCHOOL

GRADE EIGHT
GRADE ELEVEN
GRADE NINE
GRADE SEVEN
GRADE TEN
GRADE TWELVE
HIGH SCHOOL
JUNIOR HIGH SCHOOL
SECONDARY SCHOOL
SENIOR HIGH SCHOOL

COLLEGE
COMMUNITY COLLEGE
FRESHMAN
GRADUATE LEVEL
GRADUATE SCHOOL
HIGHER EDUCATION

HIGHER LEARNING
JUNIOR
JUNIOR COLLEGE
POSTDOCTORAL LEVEL
POSTGRADUATE LEVEL
SENIOR
SOPHOMORE
TWO YEAR COLLEGE
UNDERGRADUATE LEVEL
UNIVERSITY

FACET 14 (EDUCATIONAL LEVEL)
SUB-FACET 14002
(Academic Degrees)

ACADEMIC DEGREE
BACHELORS DEGREE
DOCTORAL DEGREE
MASTERS DEGREE

FACET 14 (EDUCATIONAL LEVEL)
SUB-FACET 14003
(Graduates)

COLLEGE GRADUATE
ELEMENTARY SCHOOL GRADUATE
GRADUATE
JUNIOR HIGH SCHOOL GRADUATE
SENIOR HIGH SCHOOL GRADUATE

FACET 15 (THINGS)
SUB-FACET 15001
(General terms)

AUDIOVISUAL AID
MASS COMMUNICATIONS
MASS MEDIA
MEDIA

APPARATUS
DEVICES
EQUIPMENT
INSTRUMENTS
MATERIALS
REINFORCERS

SUPPLIES
TOOLS

FACET 15 (THINGS)
SUB-FACET 15002
(Visuals, primarily non-
projected)

DISPLAYS
EXHIBITIONS
EXHIBITS
VISUALS

FIGURES
ILLUSTRATIONS
IMAGES
PICTURES

OIL PAINTINGS
PAINTINGS
POSTERS
WATER COLOR PAINTINGS

DRAWINGS
SILHOUETTES
SKETCHES
TRACINGS

CARICATURES
CARTOONS
COMIC BOOKS
COMIC STRIPS

FACET 15 (THINGS)
SUB-FACET 15003
(Charts, Graphs, Cards)

BAR GRAPHS
BLUEPRINTS
CHARTS
DIAGRAMS
FLOW CHARTS
GRAPHS
HISTOGRAMS
LINE GRAPHS
MAPS
SCATTERGRAMS
SOCIOGRAMS

CARDS
EDGE NOTCHED CARDS
FLASH CARDS
IBM CARDS
OPTICAL COINCIDENCE CARDS
PUNCHED CARDS

FACET 15 (THINGS)
SUB-FACET 15004
(Films and slides)

ANIMATED FILMS
DOCUMENTARY FILMS
FILM LOOPS
FILMS
FILMSTRIPS
HARVEY WHITE FILMS
KINESCOPIES
MOTION PICTURES
MOVIES
PHOTOGRAPHS
VIDEOTAPE RECORDINGS

MICROCARDS
MICROFICHE
MICROFILMS

OVERLAYS
SLIDES
TRANSPARENCIES

FACET 15 (THINGS)
SUB-FACET 15005
(Cameras)

CAMERAS
COPYING MACHINES
MOTION PICTURE CAMERA
STILL CAMERA
VIDEOTAPE RECORDER
VIDICON CAMERA

FACET 15 (THINGS)
SUB-FACET 15006
(Projectors and Viewers)

MICROPROJECTOR
MOTION PICTURE PROJECTOR
OPAQUE PROJECTOR
OVERHEAD PROJECTOR
PROJECTOR
SLIDE PROJECTOR

FILM VIEWER
MICROFILM READER

CONTROLLED READER
MEMORY DRUM
PACER
READING RATE ACCELERATOR
READING RATE CONTROLLER
TACHISTOSCOPE

FACET 15 (THINGS)
SUB-FACET 15007
(Television)

CCTV
CLOSED CIRCUIT TELEVISION
COMMERCIAL TELEVISION
EDUCATIONAL TELEVISION
ETV
INSTRUCTIONAL TELEVISION
OCTV
OPEN CIRCUIT TELEVISION
TELEVISION
TELEVISION MONITORS
TV

FACET 15
SUB-FACET 15008
(Display Boards)

BLACKBOARD
BULLETIN BOARD
CHALKBOARD
FLANNEL BOARD
MAGNETIC BOARD
PROJECTION SCREEN

FACET 15 (THINGS)
SUB-FACET 15009
(Teaching machines)

AUTOTUTOR
 PRESSEY PUNCHBOARD
 PULLTAB DEVICE
 PUNCHBOARD TUTOR
 SELF TUTOR
 SKINNER DEVICE
 TEACHING MACHINE
 WRITE IN MACHINE

FACET 15 (THINGS)
 SUB-FACET 15010
 (Realia and Simulators)

SPECIMENS

CROSS SECTION MODEL
 CUTAWAY MODEL
 MOCKUP
 MODELS
 SCALE MODEL
 SCULPTURE
 SIMULATOR

FACET 15 (THINGS)
 SUB-FACET 15012
 (Measuring Devices)

AUDIOMETER
 OPHTHALMOGRAPH
 POLYGRAPH

FACET 15 (THINGS)
 SUB-FACET 15013
 (Timing devices)

METRONOME
 STOPWATCH
 TIMER

FACET 15 (THINGS)
 SUB-FACET 15014
 (Sound Recordings, Radio,
 Sound System)

DICTAPHONE
 DICTATING MACHINES
 PHONOGRAPH
 RECORD PLAYER
 TAPE RECORDER

DISC RECORDINGS
 PHONOGRAPH RECORDS
 RECORDINGS (SOUND)
 SOUND TRACK
 TALKING BOOKS
 TAPE RECORDINGS
 WIRE RECORDINGS

COMMERCIAL RADIO
 EDUCATIONAL RADIO
 RADIO

CLASSROOM COMMUNICATOR
 INTERCOMMUNICATION SYSTEM
 TALK BACK
 TELEGRAPH
 TELEPHONE

LOUD SPEAKER
 MICROPHONE
 PA SYSTEM
 PUBLIC ADDRESS SYSTEM
 SPEAKER
 TRANSMITTER

EARPHONE
 HEADPHONE
 HEADSET
 HEARING AID

FACET 15 (THINGS)
 SUB-FACET 15015
 (Computers, Calculation Aids)

COMPUTERS
 DIGITAL COMPUTERS
 EAM EQUIPMENT

CUISINAIRE MATERIAL
 GATTEGNO MATERIAL
 SLIDE RULE

FACET 15 (THINGS)
 SUB-FACET 15016
 (Office machines, Control panels)

COLLATOR
 KEYPUNCH
 STENOTYPE MACHINE
 TYPEWRITER

CONTROL PANELS
 INSTRUMENT PANELS
 KEYBOARD
 RESPONSE DEVICE
 SWITCH
 SWITCHBOARD

FACET 15 (THINGS)
 SUB-FACET 15017
 (Toys)

JIGSAW PUZZLES
 MAZE
 PUZZLES
 TOYS
 TRINKETS

MARIONETTE
 PUPPET

FACET 15 (THINGS)
 SUB-FACET 15018
 (conveyances)

AUTOMOBILE
 CAR
 SCHOOL BUS

FACET 15 (THINGS)
 SUB-FACET 15020
 (Furniture, Parts of building)

CARRELS
 DESKS
 FILE CABINETS
 FURNITURE
 ROOM DIVIDERS

STUDY CARRELS

FIRE ESCAPES
 FLOORS
 STAGE
 VISION STRIPS
 WALLS
 WINDOWS

AIR CONDITIONING
 HEATING
 PLUMBING
 SOUND PROOFING
 VENTILATION
 WIRING

FACET 15 (THINGS)
 SUB-FACET 15021
 (Lenses)

CONTACT LENSES
 GLASSES
 MICROSCOPE
 MIRROR
 ONE WAY MIRROR

FACET 15 (THINGS)
 SUB-FACET 15022
 (Materials)

CARPETS
 CLOTHES
 FABRICS
 TEXTILES

CONSTRUCTION PAPER
 PAPER

GLASS
 PLASTIC
 STEEL
 WOOD

DRUGS
 FOOD
 MEDICINE

FACET 15 (THINGS)
 SUB-FACET 15023
 (Marking devices)

LIGHT PENS
 PENCILS
 PENS
 STYLUS

CHALK
 CHARCOAL
 CRAYONS
 INK
 OIL PAINTS

FACET 15 (THINGS)
 SUB-FACET 15024
 (Musical Instruments)

BRASS INSTRUMENTS
 MUSICAL INSTRUMENTS
 PERCUSSION
 STRINGED INSTRUMENTS
 WOODWINDS

FACET 15 (THINGS)
 SUB-FACET 15025
 (Animals)

ANIMALS
 CATS
 DOGS
 LIVESTOCK
 MICE
 PIGEONS
 RATS

FACET 15 (THINGS)
 SUB-FACET 15026
 (Books, Printed materials)

PRINTER MATERIALS
 PUBLICATIONS
 SOURCE MATERIALS
 BOOKS

PAPERBACKS
 PROGRAMMED BOOKS
 PROGRAMMED TEXT
 REFERENCE BOOKS
 SCRAMBLED BOOKS
 STORYBOOKS
 TEXTBOOKS

BASAL READERS
 BASIC READERS
 CASON WORD SERIES
 GATES LIST
 GRADED READERS
 PRIMERS
 READERS
 WORD LISTS

CERTIFICATES
 LICENSES
 PATENTS
 PROVISIONAL CERTIFICATES

CASE HISTORY
 LIFE HISTORY
 LONGITUDINAL RECORDS
 PROFILES
 RESUMES

BROCHURES
 BULLETINS
 PAMPHLETS

ANSWER KEYS
 ANSWER SHEETS
 NOTEBOOKS
 WORK SHEETS

CHECK LISTS
 OPINIONNAIRES
 QUESTIONNAIRES

BOOK REPORTS
 COMPOSITIONS

DISSERTATIONS
 FINANCIAL REPORTS
 LABORATORY REPORTS
 MONOGRAPHS
 REPORTS
 TERM PAPERS
 THEMES
 THESES

JOURNALS
NEWSLETTERS
NEWSPAPERS
PERIODICALS

BIBLIOGRAPHY
CATALOGS
INDEX
TRANSCRIPT

GUIDEBOOKS
HANDBOOKS
MANUALS
STUDY GUIDES
WORKBOOKS

ATLAS
DICTIONARY
ENCYCLOPEDIA
GAZETTEER
GLOSSARY
THESAURUS

FACET 15 (THINGS)
SUB-FACET 15027
(Buildings, Rooms, Facilities)

BUILDINGS
FACILITIES
PARKING FACILITIES
RECREATIONAL FACILITIES
ROOMS

DORMITORY
HOME
HOUSING
RESIDENCE

AUTOMATED CLASSROOM
CLASSROOM
CONVERTIBLE CLASSROOM
HOMEROOM
STUDY HALL

LABORATORY
LANGUAGE LABORATORY

AUDITORIUM
GYMNASIUM
THEATER

CAFETERIA

LUNCHROOM
OFFICE
SHOP
STUDIO

LIBRARY
MUSEUM

FACET 15 (THINGS)
SUB-FACET 15028
(Schools by special types,
social and Medical Institutions)

INSTITUTION
SCHOOL

LARGE SCHOOL
SMALL SCHOOL

CHURCH SCHOOL
DENOMINATIONAL SCHOOL
PARISH SCHOOL
PAROCHIAL SCHOOL
PRIVATE SCHOOL
PUBLIC SCHOOL
PROVINCIAL UNIVERSITY

AGRICULTURAL SCHOOL
DENTAL SCHOOL
LAW SCHOOL
LIBRARY SCHOOL
MEDICAL SCHOOL
NURSING SCHOOL
SCHOOL OF EDUCATION
TEACHERS COLLEGE

BIBLE SCHOOL
SEMINARY
SUNDAY SCHOOL

TRADE SCHOOL
VOCATIONAL SCHOOL

CLINIC
DAY CARE CENTER
DENTAL CLINIC
HEARING CLINIC
HOSPITAL
MENTAL HOSPITAL
READING CLINIC
SETTLEMENT HOUSE
SOCIAL SETTLEMENT

SPEECH CLINIC

COURT (LEGAL)
DETENTION HOME
JAIL

JUVENILE COURT
PENITENTIARY
PRISON
REFORMATORY

FACET 15 (THINGS)
SUB-FACET 15029
(General locations, Administrative Divisions)

LOCALE
LOCATION
SITE

ATHLETIC FIELD
CAMPUS
PLAYGROUND
SUMMER CAMP

NEIGHBORHOOD
SCHOOL DISTRICT
SLUMS

CANADIAN GOVERNMENT
CITY
COMMUNITY
COUNTY LEVEL
FEDERAL LEVEL
METROPOLITAN AREA
MUNICIPAL LEVEL
RURAL AREA
PROVINCIAL
SUBURBAN AREA
TOWNSHIP LEVEL
URBAN AREA
VILLAGE LEVEL

ALBERTA
BRITISH COLUMBIA
MANITOBA
NEW BRUNSWICK
NEWFOUNDLAND
NORTHWEST TERRITORIES
NOVA SCOTIA
ONTARIO

PRINCE EDWARD ISLAND
QUEBEC
SASKATCHEWAN
YUKON

FACET 16 (SYMBOLS)
SUB-FACET 16001
(Symbols, Names of speech sounds, parts of speech)

ALPHABET
BRAILLE
CODE
LETTERS
NOTATION
NUMERALS
SYMBOL
TYPE FACE

CONSONANTS
DIPHTHONGS
PHONEMES
VOWELS

NOMENCLATURE
NONSENSE SYLLABLES
READING VOCABULARY
SPEAKING VOCABULARY
VOCABULARY
WORD

CHAPTER
PAGE
PARAGRAPH
PASSAGE
TEXT

CAPTION
LABEL
SUBTITLE

DIALECT
DICTION

PHRASE
QUESTIONS
SENTENCE
STATEMENTS
SYLLOGISM

ADJECTIVES
ADVERBS
CONJUNCTIVES
NOUNS
PREFIXES
PREPOSITIONS
PRONOUNS
SUFFIXES
VERBS

FACET 16 (SYMBOLS)
SUB-FACET 16002
(Types of literary
compositions)

DRAMA
ESSAY
LITERATURE
PLAY
POETRY
PROSE
SHORT STORY

FACET 17 (SUBJECT MATTER)
SUB-FACET 17001
(Sports)

BASEBALL
BASKETBALL
FOOTBALL
GAMES
GOLF
GYMNASTICS
HOCKEY
RUGBY
SOCCER
SPORTS
SWIMMING
TENNIS
TRACK AND FIELD
VOLLEYBALL

FACET 17 (SUBJECT MATTER)
SUB-FACET 17002
(Physical education)

HEALTH EDUCATION
PHYSICAL EDUCATION
SEX EDUCATION

FACET 17 (SUBJECT MATTER)
SUB-FACET 17003
(Office Practices)

BOOKKEEPING
DATA PROCESSING
SECRETARIAL SCIENCE
SHORTHAND
STENOGRAPHY
TYPEWRITING
TYPING

FACET 17 (SUBJECT MATTER)
SUB-FACET 17004
(Driver training, Flight
Training)

DRIVER TRAINING
FLIGHT TRAINING

FACET 17 (SUBJECT MATTER)
SUB-FACET 17005
(Mathematics)

ADDITION
ALGEBRA
ARITHMETIC
CALCULUS
DIVISION
GEOMETRY
MATHEMATICS
MULTIPLICATION
STATISTICS
SUBTRACTION
TRIGONOMETRY

FACET 17 (SUBJECT MATTER)
SUB-FACET 17006
(Business)

ACCOUNTING
BUSINESS ADMINISTRATION
BUSINESS LAW
ECONOMICS
MARKETING

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17007
 (Philosophy)

AESTHETICS
 LOGIC
 MATHEMATICAL LOGIC
 PHILOSOPHY
 PHILOSOPHY OF EDUCATION
 SYMBOLIC LOGIC
 THEOLOGY

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17008
 (Engineering)

CYBERNETICS
 ELECTRONICS
 ENGINEERING

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17009
 (Arts)

ARCHITECTURE
 ART
 DRAWING
 FINE ARTS
 GRAPHIC ARTS
 LITHOGRAPHY
 PAINTING
 PENMANSHIP
 PHOTOGRAPHY

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17010
 (Industrial Arts)

DRAFTING
 INDUSTRIAL ARTS
 MECHANICAL DRAWING

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17011
 (Music)

BAND (MUSIC)
 CHOIR
 DANCE
 DRAMATIC ARTS
 INSTRUMENTAL MUSIC
 MUSIC EDUCATION
 VOICE (MUSIC)

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17012
 (Literature and Language Arts)

CANADIAN LITERATURE
 ENGLISH
 ENGLISH LITERATURE
 GRAMMAR
 JOURNALISM
 LANGUAGE ARTS
 LINGUISTICS
 LITERATURE COURSES
 PHONICS
 PUNCTUATION
 SPEECH COURSES
 SPELLING

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17013
 (Foreign Languages)

CHINESE (LANGUAGE)
 CLASSICS
 FOREIGN LANGUAGES
 FRENCH (LANGUAGE)
 GERMAN (LANGUAGE)
 JAPANESE (LANGUAGE)
 RUSSIAN (LANGUAGE)
 SPANISH (LANGUAGE)

FACET 17 (SUBJECT MATTER)
 SUB-FACET 17014
 (Social Sciences)

ANTHROPOLOGY
 CANADIAN HISTORY
 CIVICS
 EDUCATION COURSES
 GEOGRAPHY

HISTORY
LIBRARY SCIENCE
SOCIAL SCIENCES
SOCIAL STUDIES
SOCIOLOGY
WORLD HISTORY

FACET 17 (SUBJECT MATTER)
SUB-FACET 17018
(Home Economics)

BAKING
HOME ECONOMICS
SEWING

FACET 17 (SUBJECT MATTER)
SUB-FACET 17015
(Sciences)

ASTRONOMY
BIOLOGY
BOTANY
CHEMISTRY
EARTH SCIENCES
GEOLOGY
METEROLOGY
NATURAL SCIENCES
PHYSICAL SCIENCES
PHYSICS
SCIENCE
ZOOLOGY

FACET 17 (SUBJECT MATTER)
SUB-FACET 17016
(Agriculture)

AGRICULTURE
CONSERVATION
FORESTRY

FACET 17 (SUBJECT MATTER)
SUB-FACET 17017
(Medical Education)

DENTISTRY
MEDICAL EDUCATION
NURSING

OPHTHALMOLOGY
PSYCHIATRY
PSYCHOLOGY

APPENDIX B

CODING FORMS

THESES STORAGE AND RETRIEVAL SYSTEM

Indexing Coding Form

Indexers: _____

Date: ____/____/____

Document Reference Code														
16 20 25 30 35 40 45 50 55 60 65 70 75 80														
No. of authors														
Authors Title														
A 1														
A 2														
A 3														
Source														
C 1														
yr.														
Ic #														
lib #														
Descriptors														
D														
D														
D														
D														
D														
D														
Natural Language Concepts														

1	2	3	4	5
---	---	---	---	---

THESES STORAGE AND RETRIEVAL STORAGE

Abstract Coding Form

PAGE OF

DOCUMENT NUMBER

6	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
AUTHORS, TITLE															
A1															
A2															
A3															
DEPARTMENT YEAR DEGREE PAGES RESEARCH METHOD LIB #															
B1															
ABSTRACT															
C1															
C2															
C3															
C4															
C5															
C6															
C7															
C8															
C9															
D1															
D2															
D3															
D4															
D5															
D6															
D7															
D8															
D9															

Date: / /

EDUCATIONAL INFORMATION STORAGE AND RETRIEVAL SYSTEM

Question Coding Form

Page of

1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
A G A I N																
T I T L E																
(Print an appropriate title to the question - Circle "AGAIN" if other than first question)																
F O R																
(Name)																
(Name and Street)																
(City and Province)																
<u>PROFILE INSTRUCTIONS</u>																
SEARCH PROFILE:																
1. Each new parameter begins with "AND" or "NOT".																
2. Descriptor parameters precede Author parameters. There must be one descriptor parameter.																
3. Using Author parameters, "AND" precedes "NOT", also only one "AND" or one "NOT" is permitted.																
4. Maximum 10 parameters Maximum 25 terms in each parameter																
5. The identifier "A" or "D" must be included with each term. Conclude profile with "SEARCH".																
continue above																
Statement of Question:																

APPENDIX C

DIRECTIONS FOR CARD PREPARATION

INFORMATION STORAGE PROCEDURES

Thesaurus

The terms used in both the indexing phase and the searching phase were initially introduced to computer storage by means of punched cards. These authorized descriptors and their term code numbers were then stored on a separate tape file for more functional use with the system. Three types of cards were required to complete the filing phase for the thesaurus. These were: an initial card to indicate the exact number of terms in the thesaurus; a second set of cards, equal in number to that indicated by the first card, each bearing a separate descriptor term and a term code number; and a final card with a series of nines punched in all eighty columns to mark the end of the deck of cards. The format used to punch these three types of cards was as follows:



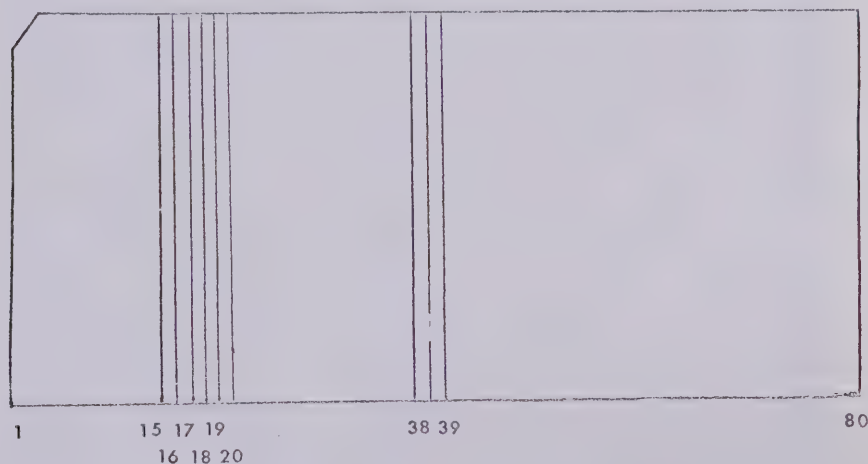
FIRST CARD

Columns	1 - 6	Blank
	7 - 10	Number of terms in thesaurus
	11 - 80	Blank

Bibliographic Information

The indexing coding form (See appendix B) was used to prepare the bibliographic information for input into the citation file of the system. The first fifteen positions of each card carried the document reference code corresponding to that citation. The initial five digits of this code number were numeric followed by a dash and the author's name. Each document stored required a minimum of five cards increasing to a maximum of ten. These cards were made up of three record divisions.

The first division, containing author-title particulars, required a total of three cards. The format for the first of these three cards is shown below.



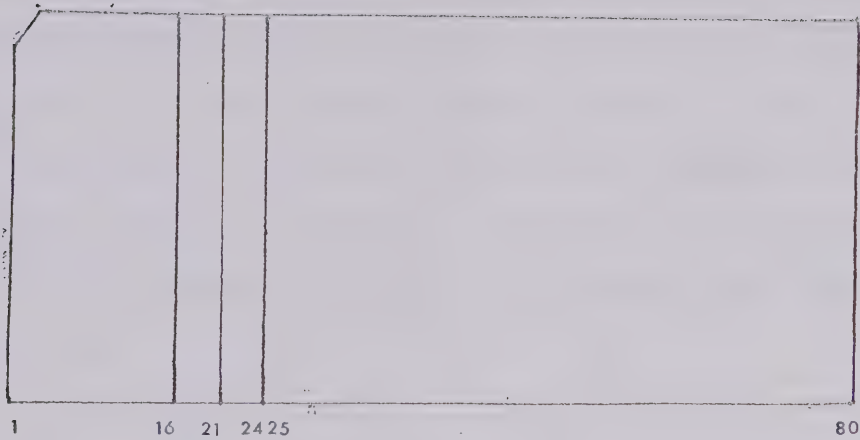
Author-Title Record Card
Number one

columns 1 - 15	Document reference code
16	Author(s)-title record identifier (A)
17	Record sequence number
18	Number of authors
19 - 38	Author's surname and initials
39 - 80	Title

ACADEMIC ENRICHMENT 0010
ACADEMIC DEGREE 0009
ACADEMIC APTITUDE 0008
ABSTRACTNESS 0007
ABSTRACTION 0006
ABSTRACTING 0005
ABNORMALITY 0004
ABILITY TEST 0003
ABILITY GROUPING 0002
ABILITY 0001

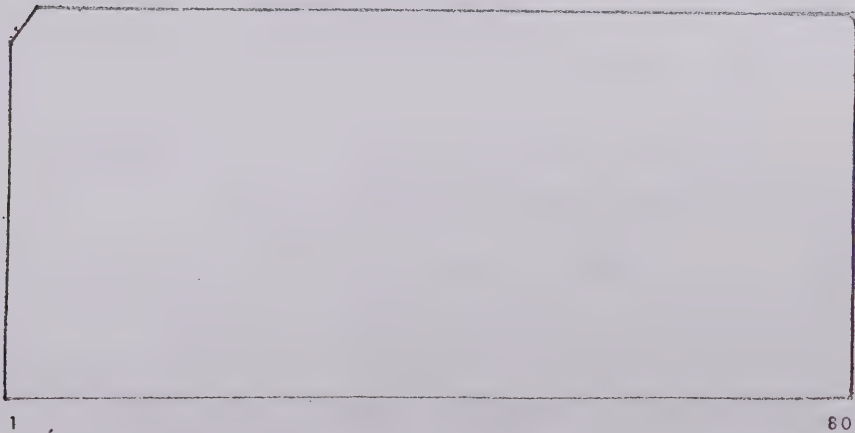
1 thru I
J thru R
S Thru Z
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
IBM 5050

The Input Profile of Thesaurus Terms



DESCRIPTOR CARD

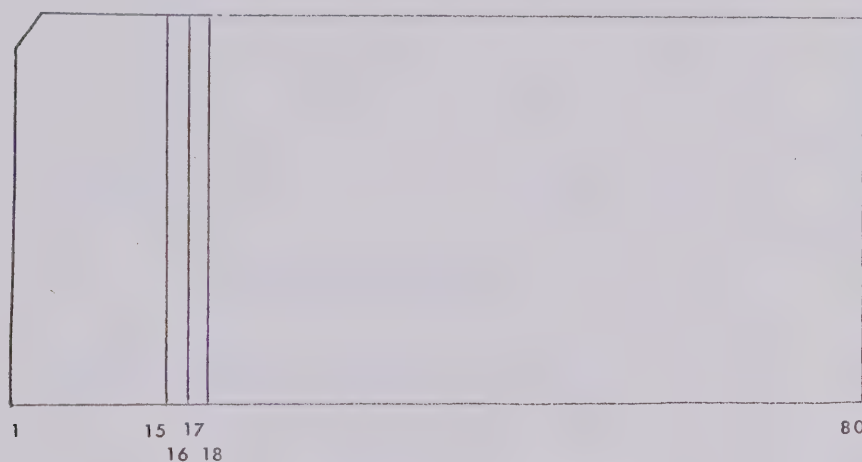
columns 1 - 16	Thesaurus term (Terms could fill the 1-20 field but were truncated at 16 characters by the program)
21 - 24	Code Numbers
25 - 80	Blank



FINAL CARD

columns 1 - 80	The digit 9 in each column
----------------	----------------------------

The second and third of the Author-Title cards provided additional space for the continuation of the title of the thesis. Once again the document reference code was recorded in the first fifteen columns, followed by the identifier and sequence number in columns sixteen and seventeen. The remaining sixty-three columns were devoted to space for the title, where needed. The format for these cards is as follows:

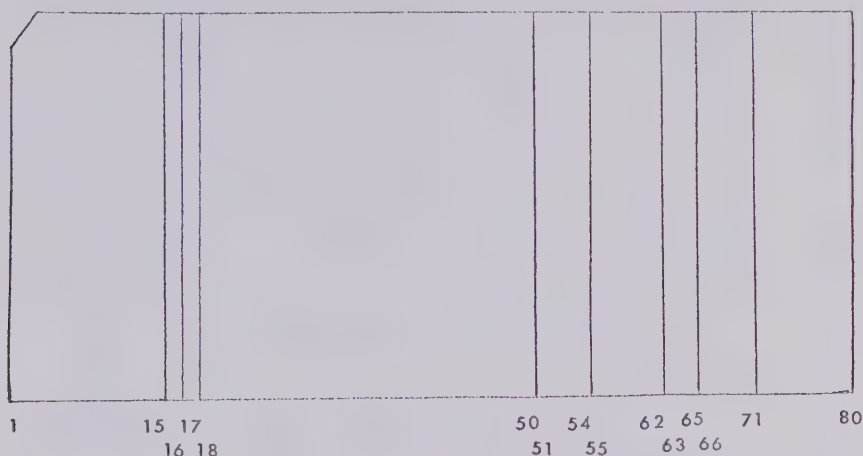


Author-Title Record Card
Numbers Two and Three

columns	1 - 15	Document reference code
	16	Authors/Title record identifier (A)
	17	Record sequence number
	18 - 80	Title, or blank

A single card was used to introduce certain bibliographic particulars, other than the Author-Title, for storage in the citation file. The specific details contained on this card were: (1) The department in the Faculty of Education; (2) the year of presentation; (3) the degree earned; (4) the number of pages; and (5) the Reserve Library Call number. This final item was included to facilitate the

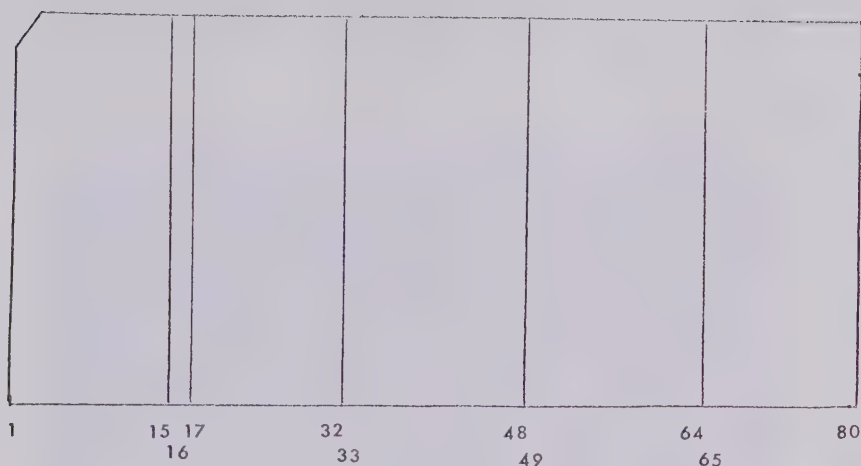
retrieval of the complete thesis should this be necessary. The key-punching directions for this card are indicated in the following illustration.



The Source Card

- | | | |
|---------|---------|---|
| columns | 1 - 15 | Document reference code |
| | 16 | Source record identifier (C) |
| | 17 | Record sequence number (1) |
| | 18 - 50 | Department in Faculty of Education |
| | 51 - 54 | Year of presentation |
| | 55 - 62 | Degree earned |
| | 63 - 65 | Number of pages |
| | 66 - 71 | Library call number (These presently stored in the Reading Room of Cameron Library) |

The third type of card, the descriptor record, consisted of from one to six cards capable of carrying a maximum of four descriptor terms. The program required that the final descriptor field be a blank unless the maximum twenty-four descriptors were entered. The general format for each of the descriptor record cards is diagrammed below.



The Descriptor Record

columns	1 - 15	Document reference code
	16	Descriptor record identifier (D)
	17 - 32	First descriptor
	33 - 48	Second descriptor
	49 - 64	Third descriptor
	65 - 80	Fourth descriptor

The arrangement of the cards containing the bibliographic information relating to a thesis is shown in the diagram illustrating the input profile of bibliographic particulars.

Text of Abstracts

The abstract coding form (See Appendix B) was used to record the text of the abstract prior to storage in the sequential files of the system. From this form a series of three records were recorded on machine cards. These cards, in turn, were used to introduce the information into the system. The records concerned were: the author-title record, the source record, and the abstract record.


```

00129-KOLESAR DREGUREMENTS CONFLICT ORGANIZATIONAL C
00129-KOLESAR STUDENT ATTITUDESCHOOL ENVIRONMENT
00129-KOLESAR CIADININ 1967PH.D 244FA0022
00129-KOLESAR A3
00129-KOLESAR A2IN THE BUREAUCRATIC ORGANIZATION
00129-KOLESAR A1IKOLESAR H. AN EMPIRICAL STUDY OF CLIENT ALIENATION
A Thru I
J Thru
K Thru
L Thru
M Thru
N Thru
O Thru
P Thru
Q Thru
R Thru
S Thru
T Thru
U Thru
V Thru
W Thru
X Thru
Y Thru
Z Thru

```

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

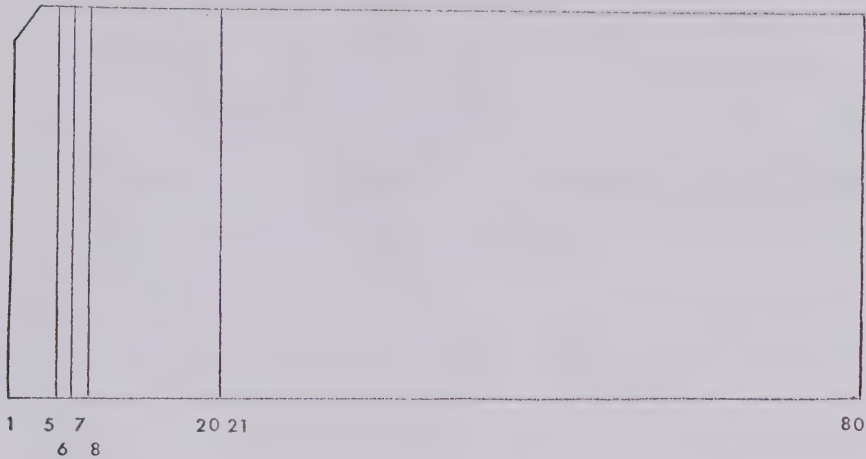
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

NEW 505G

The Input Profile of Bibliographic Particulars

The author-title record contained two cards, the arrangement of which is given in the following illustrations.



The Abstract Author-Title
Card Number One

columns 1 - 5 Document number

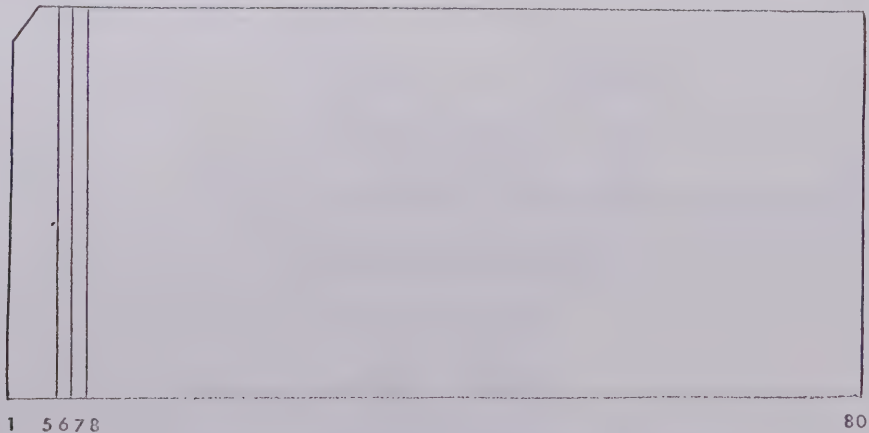
6 Author-Title record identifier

7 Record sequence number

8 - 20 Author's surname and initials, when possible

21 - 80 Thesis title

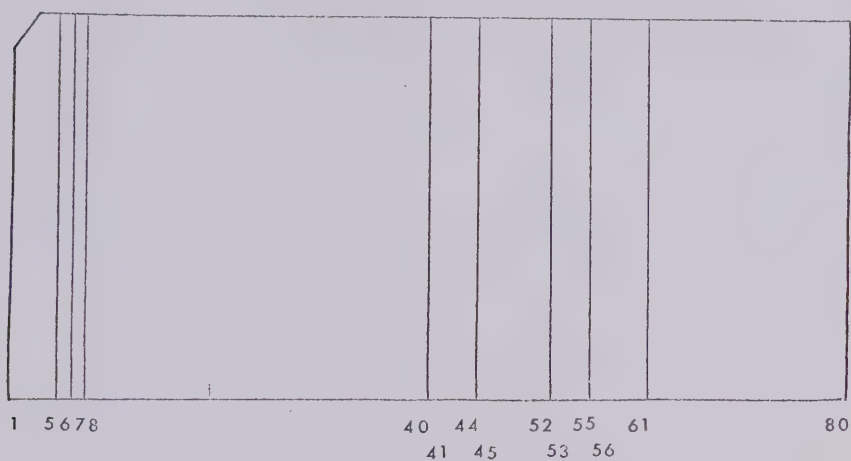
The second of these two cards provided more space for the title by excluding the name of the author. The other characteristics remained the same.



The Abstract Author-title
Card Number Two

columns 1 - 5 Document number
 6 Author-title record identifier
 7 Record sequence number
 8 - 80 Thesis title, or blank

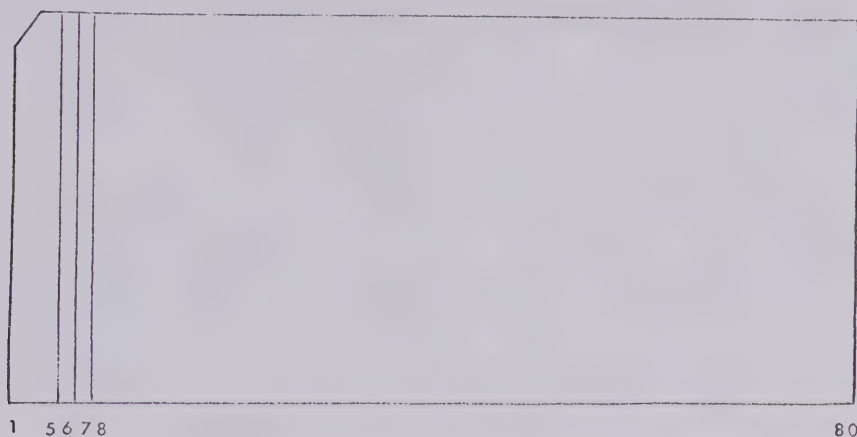
The source record consisted of a single card, the format for which is illustrated in the following diagram.



Abstract Source Record Card

columns 1 - 5 Document number
 6 Source record identifier
 7 Record sequence number
 8 - 40 Department in Faculty of Education
 41 - 44 Year of presentation
 45 - 52 Degree earned
 53 - 55 Number of pages
 56 - 61 Reserve Library call number

The abstract record consisted of up to maximum of 18 cards. The first eight columns carried the identifying characteristics, while the balance was devoted to the text of the abstract. The format for these cards is as follows.



Abstract Record Card

columns 1 - 5 Document number
 6 Abstract record identifier
 7 Record sequence number
 8 - 80 Text of abstract

An example of the arrangement of the cards carrying the text of the abstract is shown in the illustration entitled Input Profile for Text of Abstract.

The final card in the deck containing the cards of abstracts was identified by having the numerical character 9 punched in all 80 columns. This served to terminate the reading portion of the program.

01129D4ASSOCIATION WITH DIFFERENCES IN SCHOOL STRUCTURE.
 01129D3ON THE POWERLESSNESS DIMENSION AND IN THE COMBINATION OF DIMENSIONS IN
 01129D2 TYPE AND THAT THE DEGREE OF PUPIL ALIENATION ALSO DIFFERS SIGNIFICANTLY
 01129D1THE FINDINGS SUPPORT THE CONCLUSIONS THAT SCHOOLS DIFFER IN BUREAUCRATIC
 01129C9SCORES ON THE DIMENSIONS.
 01129C8MEANINGLESSNESS, ISOLATION, AND A TOTAL SCORE OBTAINED BY COMBINING
 01129C7DIMENSIONS OF ALIENATION, POWERLESSNESS, SELF-ESTRANGEMENT, NORMLESSNESS,
 01129C6ORIGINAL SAMPLE OF TWENTY HIGH SCHOOLS, PROVIDING SCORES ON FIVE
 01129C5ADMINISTERED TO MORE THAN SEVENTEEN HUNDRED PUPILS IN TWELVE OF THE
 01129C4REPRESENTATIVE, AND MOCK. THE PUPIL ATTITUDE QUESTIONNAIRE WAS
 01129C3SCHOOLS WERE IDENTIFIED-MONOCRATIC PUNISHMENT-CENTERED, COLLEGIAL OR
 01129C2THREE TEACHERS IN TWENTY ALBERTA HIGH SCHOOLS. FOUR TYPES OF BUREAUCRATIC
 01129C1 THE SCHOOL ORGANIZATIONAL INVENTORY WAS ADMINISTERED TO FOUR HUNDRED
 01129B1ADMIN 1967 PH.D 244
 01129A2BUREAUCRATIC ORGANIZATION.
 01129A1KOLESA HENRY AN EMPIRICAL STUDY OF CLIENT ALIENATION IN THE

A Thr I J Thru
 B Thru
 C Thru
 D Thru
 E Thru
 F Thru
 G Thru
 H Thru
 I Thru
 J Thru
 K Thru
 L Thru
 M Thru
 N Thru
 O Thru
 P Thru
 Q Thru
 R Thru
 S Thru
 T Thru
 U Thru
 V Thru
 W Thru
 X Thru
 Y Thru
 Z Thru
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
 .18M 5050

Bibliographic Contents

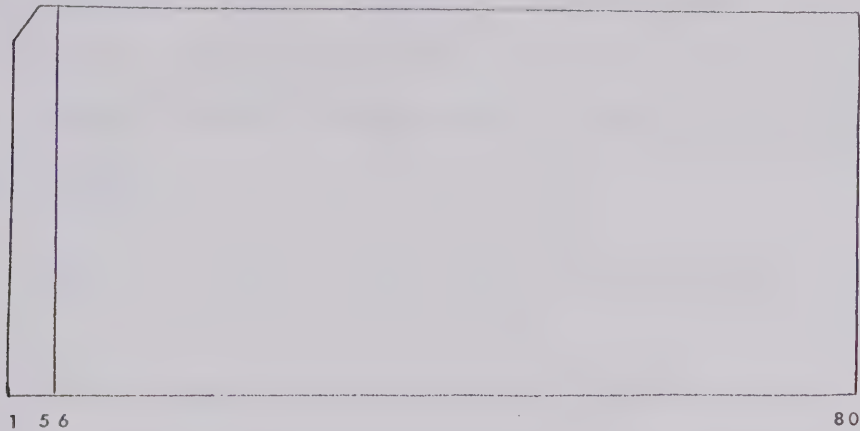
The thesaurus aided the completion of the search profile. This profile was originally recorded on the question coding form and then transferred to the machine cards which served to introduce the search request into the system.

The procedure for the completion of the search profile is as follows:

1. Each new parameter must begin with AND or NOT.
2. Descriptor parameters precede author parameters.
3. While using author terms, AND parameters must precede NOT parameters and only one AND and/or one NOT parameter is permitted.
4. A single parameter may not contain both author and descriptor terms.
5. The maximum number of parameters to a question is 10 and a maximum of 25 terms may be used in any one parameter.
6. The identifier A or D must be included with any term in a parameter.
7. In order that the files may be searched, the profile must conclude with the command SEARCH.

The logic variables AND and NOT were used to establish the parameters--AND initiating a parameter and NOT eliminating a specific parameter from consideration. Where more than one term was included within a parameter any one of the terms indicated would satisfy that parameter.

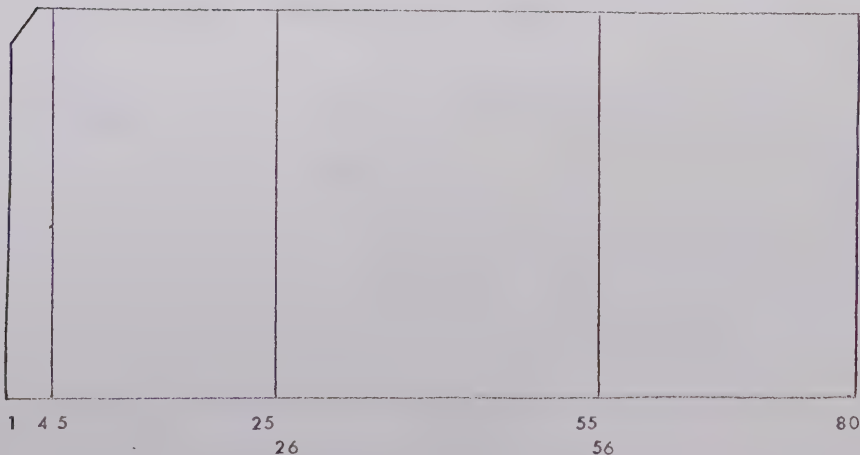
Five types of machine cards were prepared from the question coding form, illustrations of these appear in the order that they were arranged in the profile. The types of cards and their order of arrangement were as follows: the header card, the address card, the parameter card, the term card, and the search card.



The Header Card

columns 1 - 5 The heading TITLE of AGAIN followed by one blank

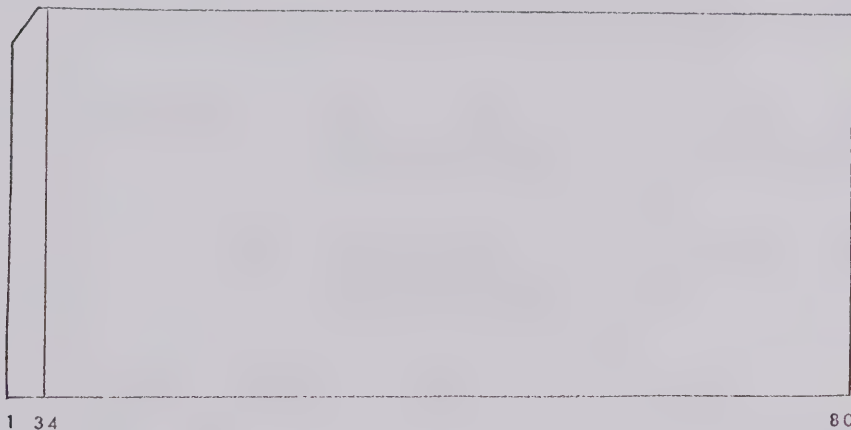
6 - 80 Appropriate title which serves as the explanatory introduction for each page of the final output for the question.



The Address Card

columns 1 - 4 The word FOR followed by one blank
 5 - 25 Users name
 26 - 55 Address, number and street, or blank
 56 - 80 Address, city and province, or blank

The address card was omitted whenever more than one question was submitted by a single individual. Where this was the case the term AGAIN was used in place of the term TITLE for the header card. This variation permitted the questions from this user to be run consecutively.



The Parameter Card

columns 1 - 3 The parameter words AND or NOT
 4 - 80 Blank

The Term Card containing the Term Identifier
and the Author of Descriptor Term

- columns 1 - 2 The term indentifiers (A or D) and one blank.
 A to indicate an author term and D to
 indicate a descriptor term
- 3 - 80 The descriptor or author terms. (Theses
 terms were shortened to 16 characters
 by the program)

The Search Card

SEARCH _____
 D INNOVATION _____
 D CHANGE _____
 AND _____
 D TEACHER ADMINISTRATION _____
 D TEACHER ATTITUDE _____
 D TEACHER PARTICIPATION _____
 AND _____
 D QUEBEC _____
 AND _____
 FOR BUREAU _____
 TITLE EDUCATIONAL CHANGE IN QUEBEC _____
 AT THE _____
 J Thru R _____
 B Thru Z _____
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
 A _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 B _____ C _____ D _____ E _____ F _____ G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 C _____ D _____ E _____ F _____ G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 D _____ E _____ F _____ G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 E _____ F _____ G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 F _____ G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 G _____ H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 H _____ I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 I _____ J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 J _____ K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 K _____ L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 L _____ M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 M _____ N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 N _____ O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 O _____ P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 P _____ Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 Q _____ R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 R _____ S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 S _____ T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 T _____ U _____ V _____ W _____ X _____ Y _____ Z _____
 U _____ V _____ W _____ X _____ Y _____ Z _____
 V _____ W _____ X _____ Y _____ Z _____
 W _____ X _____ Y _____ Z _____
 X _____ Y _____ Z _____
 Y _____ Z _____
 Z _____

The Search Profile

APPENDIX D

PROGRAM LISTINGS AND

JOB CONTROL CARDS

The Arrangement of Control Cards
for the Pre-file Program

JOB CARD

//TERMITT EXEC FORTGCLG

//FORT.SYSIN DD *

Object Deck of Program

/*

//GO.FT01F001 DD UNIT=SYSDA,DISP=NEW,

// SPACE=(7224,50),

// DCB=(RECFM=FB,LRECL=258,BLKSIZE=7224)

//GO.FT02 DD UNIT=SYSTP,DISP=(OLD,KEEP),DSNAME=THESOR,

// LABEL=(1,SL,,IN),DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000),

// VOLUME=SER=EA1925

//GO.SYSIN DD *

/*

The Arrangement of Control Cards
for the Original File Program

JOB CARD

//TERMITT EXEC FORTGCLG

//FORT.SYSIN DD *

//LKED.SYSLIB DD DSN=SYS1.FORTLIB,DISP=SHR

// DD DSN=SYS1.GRIDLIB,DISP=SHR,

// UNIT=2314,VOLUME=SER=D00018

// DD DSN=SYS1.CSSUBLIB,DISP=SHR,

// UNIT=2314,VOLUME=SER=D00018

// DD DSN=SYS1.SSPLIB,DISP=SHR,

// UNIT=2314,VOLUME=SER=D00018

//GO.FT02F001 DD UNIT=SYSDA,DISP=(NEW,PASS),SPACE=(CYL,1),

// DCB=(RECFM=F,LRECL=7292,BLKSIZE=7292)

//GO.FT01F001 DD DISP=(NEW,PASS),UNIT=SYSDA,SPACE=(CYL,2),

// DCB=(RECFM=F,LRECL=258,BLKSIZE=258)

//GO.FT03F001 DD UNIT=SYSTP,DISP=(OLD,KEEP),DSN=THESOR,

// LABEL=(1,SL,,IN),DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000),

// VOLUME=SER=EA1925

//GO.SYSIN DD *

NUMBER OF THESAURUS TERMS

CARETAKER FILES WITH UPDATE CARD

NUMBER OF DOCUMENTS TO BE STORED

DOCUMENT DECK

/*

//IFOUT EXEC PGM=IEBGENER

File Program Control Cards (continued)

```
//SYSPRINT      DD  SYSOUT=A
//SYSIN          DD  DUMMY
//SYSUT1         DD  DSNAME=*.TERMITE.GOFT01F001,DISP=(OLD,DELETE)
//SYSUT2         DD  UNIT=SYSTP,DISP=(NEW,KEEP),DSNAME=CFILE,
//              DCB=(RECFM=FB,LRECL=258,BLKSIZE=7740),LABEL=(2,SL),
//              VOLUME=(,RETAIN,SER=EA0870)
/*
```


The Arrangement of Control Cards
for the Update File Program

JOB CARD

```
//COPYIF EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD UNIT=SYSTP,DISP=OLD,DSNAME=IFILE,
// VOLUME=(,RETAIN,SER=EA0870)
//SYSUT2 DD UNIT=SYSDA,DISP=(NEW,PASS),SPACE=(CYL,1),
// DCB=(RECFM=F,LRECL=7292,BLKSIZE=7292)
//COPYCF EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD UNIT=SYSTP,DISP=OLD,DSNAME=CFILE,LABEL=(2,SL),
// VOLUME=(,RETAIN,SER=EA0870)
//SYSUT2 DD UNIT=SYSDA,DISP=(NEW,PASS),SPACE=(CYL,2),
// DCB=(RECFM=F,LRECL=258,BLKSIZE=258)
//TERMITT EXEC FORTGCLG
//FORT.SYSIN DD *
//LKED.SYSLIB DD DSNAME=SYS1.FORTLIB,DISP=SHR
// DD DSNAME=SYS1.GRIDLIB,DISP=SHR,
// UNIT=2314,VOLUME=SER=D00018
// DD DSNAME=SYS1.CSSUBLIB,DISP=SHR,
// UNIT=2314,VOLUME=SER=D00018
// DD DSNAME=SYS1.SSPLIB,DISP=SHR,
// UNIT=2314,VOLUME=SER=D00018
//GO.FT02D001 DD DSNAME=*.COPYIF.SYSUT2,DISP=(OLD,PASS)
//GO.FT01F001 DD DSNAME=*.COPYCF.SYSUT2,DISP=(OLD,PASS)
//GO.FT03F001 DD UNIT=SYSTP,DISP=(OLD,KEEP),DSNAME=THESOR,
// LABEL=(1,SL,,IN),DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000),
// VOLUME=SER=EA1925
//GO.SYSIN DD *
NUMBER OF THESAURUS TERMS
CARETAKER FILES WITH UPDATE CARD
NUMBER OF DOCUMENTS TO BE STORED
DOCUMENT DECK
//IFOUT EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD DSNAME=*.TERMITT.GO.FT02F001,DISP=(OLD,DELETE)
//SYSUT2 DD UNIT=SYSTP,DISP=(NEW,KEEP),DSNAME=IFILE,
// DCB=(RECFM=LRECL=F,LRECL=7292,BLKSIZE=7292),
// VOLUME=(,RETAIN,SER=EA0870)
//CFOUT EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD DSNAME=*.TERMITT.GO.FT01F001,DISP=(OLD,DELETE)
//SYSUT2 DD UNIT=SYSTP,DISP=(NEW,KEEP),DSNAME=CFILE,
// DCB=(RECFM=FB,LRECL=258,BLKSIZE=7740),LABEL=(2,SL),
// VOLUME=(,RETAIN,SER=EA0870)
```


The Arrangement of Control Cards
for the Search Program

```

JOB CARD
//COPYIF EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD UNIT=SYSTP,DISP=OLD,DSNAME=IFILE,
// VOLUME=(,RETAIN,SER=EA0870)
//SYSUT2 DD UNIT=SYSDA,DISP=(NEW,PASS),SPACE=(CYL,1),
// DCB=(RECFM=F,LRECL=BLKSIZE=7292)
//COPYCF EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSIN DD DUMMY
//SYSUT1 DD UNIT=SYSTP,DISP=OLD,DSNAME=CFILE,LABEL=(2,SL),
// VOLUME=(RETAIN,SER=EA0870)
//SYSUT2 DD UNIT=SYSDA,DISP=(NEW,PASS),SPACE=(CYL,2),
// DCB=(RECFM=F,LRECL=258,BLKSIZE=258)
//TERMITT EXEC FORTGCLG
//FORT.SYSIN DD *
//LKED.SYSLIB DD DSNAME=SYS1.FORTLIB,DISP=SHR
// DD DSNAME=SYS1.GRIDLIB,DISP=SHR,
// UNIT=2314,VOLUME=SER=D00018
// DD DSNAME=SYS1.CSSUBLIB,DISP=SHR,
// UNIT=2314,VOLUME=SER=D00018
// DD DSNAME=SYS1.SSPLIB,DISP=SHR.
// UNIT=2314,VOLUME=SER=D00018
//GO.FT01F001 DD DSNAME=*.COPYCF.SYSUT2,DISP=(OLD,PASS)
//GO.FT02F001 DD DSNAME=*.COPYIF.SYSUT2,DISP=(OLD,PASS)
//GO.FT03D001 DD UNIT=SYSTP,DISP=(OLD,KEEP),DSNAME=THESOR,
// LABEL=(1,SL,,IN),DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000),
// VOLUME=SER=EA1925
//GO.SYSIN DD *
/*
NUMBER OF THESAURUS TERMS
CARETAKER FILES WITHOUT THE UPDATE CARD
DATE CARD
DECK OF SEARCH PROFILES
/*

```


Program Listing for The Retrieval of Abstracts

//ABPRINT EXEC FORTGCLG

//FORT.SYSIN DD *

C ABSTRACT RETRIEVAL PROJECT

C THESIS

D. R. SMYTH

C THIS PROGRAM SEARCHES FOR DOCUMENTS IN
 C THE SEQUENTIAL FILES. WHEN APPROPRIATE
 C DOCUMENT NUMBERS ARE FOUND THE TEXTS
 C ASSOCIATED WITH THE NUMBERS ARE PRINTED.
 DIMENSION NOSRCH(8),DISC(75)

MATCH = 0

1 READ (5,2) NOSRCH

2 FORMAT ((8(115,5X)))

DD 9 1 = 1,8

IF (NOSRCH(1).EQ.0) GO TO 99

4 READ (2,3) MNO,DISC

3 FORMAT (115,75A1)

IF (MNO.EQ.NOSRCH(1))GO TO 10

MATCH = 0

IF (MNO.NE.NOSRCH(1))GO TO 4

WRITE (6,5) MNO,DISC

5 FORMAT (1H0,115,75A1)

GO TO 9

10 IF (MATCH.EQ.1) GO TO 11

MATCH = 1

WRITE (6,5) MNO, DISC

GO TO 4

11 WRITE (6,8) DISC

8 FORMAT (1H ,5X,2A1,5X,73A1)

GO TO 4

9 CONTINUE

GO TO 1

99 STOP

END

//GO.FT02F001 DD UNIT=SYSTP,DISP=(OLD,KEEP),DSNAME=ABSIR,

// LABEL=(2,SL,,IN), DCB=(RECFM=FB,LRECL=80,BLKSIZE=8000),

// VOLUME=SER=FA1925

//GO.SYSIN DD*

DOCUMENT NUMBERS TO BE RETRIEVED

BLANK CARD

/*

B29962